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English Version

Railway applications - Wheelsets and bogies - Method of specifying the structural requirements of bogie frames

Applications ferroviaires - Essieux montés et bogies -
Méthode pour spécifier les exigences en matière de
résistance des structures de châssis de bogie

Bahnanwendungen - Radsätze und Drehgestelle -
Spezifikationsverfahren für Festigkeitsanforderungen an
Drehgestellrahmen

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Foreword

This document (prEN 13749:2008) 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 Unique Acceptance Procedure.

This document will supersede EN 13749:2005.

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 EC Directive(s).

For relationship with EC Directive(s), see informative Annex ZA, which is an integral part of this document.

1 Scope

This European Standard specifies the method to be followed to achieve a satisfactory design of bogie frames and includes design procedures, assessment methods, verification and manufacturing quality requirements. It is limited to the structural requirements of bogie frames including bolsters and axlebox housings. For the purpose of this European Standard, these terms are taken to include all functional attachments, e.g. damper brackets.

2 Normative references

The following referenced documents are indispensable for the application 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 15085-1, *Railway applications — Welding of railway vehicles and components — Part 1: General*

EN 15085-2, *Railway applications — Welding of railway vehicles and components — Part 2: Quality requirements and certification of welding manufacturer*

EN 15085-3, *Railway applications — Welding of railway vehicles and components — Part 3: Design requirements*

EN 15085-4, *Railway applications — Welding of railway vehicles and components — Part 4: Production requirements*

EN 15085-5, *Railway applications — Welding of railway vehicles and components — Part 5: Inspection, testing and documentation*

prEN 15663, *Railway applications — Vehicle mass definition*

prEN 15827-1, *Railway applications — Bogies and running gear — Part 1: General principles*

prEN 15827-2:2008, *Railway applications — Bogies and running gear — Part 2: Structural requirements*

3 Terms and definitions

For the purposes of this document the following definitions apply.

3.1 Commercial terms

3.1.1

approval authority

an organisation that is legally responsible for determining that a system, sub-system or component conforms to all applicable regulations and standards and that is independent of the design and manufacturing functions. Under Interoperability regulations a Notified Body is such an organization.

3.1.2

customer

organisation which has the responsibility for defining the technical requirements for the bogie which are necessary for it to perform its intended operation

prEN 13749:2008 (E)**3.1.3****supplier**

organisation which supplies bogies or bogie components

3.2 Technical terms**3.2.1****bogie frame**

load-bearing structure generally located between primary and secondary suspension

3.2.2**bolster**

transverse load-bearing structure between vehicle body and bogie frame

3.2.3**sideframe**

longitudinal structural member of the bogie frame

3.2.4**headstock**

transverse member joining the longitudinal extremities of the bogie sideframes

3.2.5**transom**

central transverse structural member(s) of the bogie frame

3.2.6**axlebox**

assembly comprising the box housing, rolling bearings, sealing and grease

3.2.7**box housing**

load-bearing structure housing the bearings, grease, sealing and accessories

NOTE Earthing brush, tachogenerator and wheel-slide sensors are typical accessories.

3.2.8**primary suspension**

suspension system consisting of the resilient elements generally located between the axlebox and bogie frame

3.2.9**secondary suspension**

suspension system consisting of the resilient elements generally located between the bogie frame and vehicle body or bolster

3.2.10**static force**

force which is constant with time

NOTE Force due to gravity is an example of static force.

3.2.11**quasi-static force**

force, which changes with time at a rate which does not cause dynamic excitation

NOTE Quasi-static force might remain constant for limited periods.