

Railway applications - Rubber suspension components - Elastomer- based mechanical parts

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components - Elastomer-based mechanical parts

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13913:2003 sisaldab Euroopa standardi EN 13913:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.05.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13913:2003 consists of the English text of the European standard EN 13913:2003.</p> <p>This document is endorsed on 16.05.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard defines: - characteristics that elastomer-based mechanical parts shall achieve, together with applicable inspection and test methods to be carried out for verification; - approval procedure to be implemented by the customer; - guidelines for qualification of the product with specified requirements; - quality monitoring of elastomer-based mechanical parts in manufacture</p>	<p>Scope:</p> <p>This European Standard defines: - characteristics that elastomer-based mechanical parts shall achieve, together with applicable inspection and test methods to be carried out for verification; - approval procedure to be implemented by the customer; - guidelines for qualification of the product with specified requirements; - quality monitoring of elastomer-based mechanical parts in manufacture</p>
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Võtmesõnad:

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English version

**Railway applications - Rubber suspension components -
Elastomer-based mechanical parts**

Applications ferroviaires - Pièces de suspension à base
d'élastomère - Pièces mécaniques à base d'élastomère

Bahnanwendungen - Elastomer-Federungselemente -
Mechanische Bauteile auf Elastomerbasis

This European Standard was approved by CEN on 18 December 2002.

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This European Standard exists 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 Management Centre has the same status as the official versions.

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

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Foreword

This document (EN 13913:2003) 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 October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

- Council Directive 96/48/EEC of 23 July 1996 on interoperability of the European high-speed train network¹;
- Council Directive 93/38/EEC of 14 June 1993 co-ordinating the procurement procedures of entities operating in the water, energy, transport and telecommunications sectors²;
- Council Directive 91/440/EEC of 29 July 1991 on the development of the community's railways³.

The annexes A, B, C, D and E are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

¹ Official Journal of the European Communities N° L 235 of 17.09.96

² Official Journal of the European Communities N° L 199 of 09.08.93

³ Official Journal of the European Communities N° L 237 of 24.08.91

Introduction

Designing an elastomer-based mechanical part requires knowledge of the mechanical system of which it forms part. Specific characteristics are therefore needed for each case, which only the customer can specify.

This European Standard is the result of the studies and research to improve the performances and quality of elastomer-based mechanical parts in order to meet the requirements of railway rolling stock.

This European Standard is designed for the railway operators, the manufacturers and equipment suppliers of the railway industry as well as for the suppliers of elastomer-based mechanical parts.

1 Scope

This European Standard defines:

- characteristics that elastomer-based mechanical parts shall achieve, together with applicable inspection and test methods to be carried out for verification;
- approval procedure to be implemented by the customer;
- guidelines for qualification of the product with specified requirements;
- quality monitoring of elastomer-based mechanical parts in manufacture.

This European Standard applies to elastomer-based mechanical parts designed to be fitted on railway vehicles and similar vehicles running on dedicated tracks with permanent guide systems, whatever the type of rail and the running surface.

Typical applications of elastomer-based mechanical parts include:

- vehicle suspension systems;
- equipment mounting systems;
- joints (e.g.: end-mountings of dampers, elastomer-based bearings, elastomer-based parts used on mechanical couplings);
- limit stops.

These parts can be:

- made entirely of elastomer, operating on their own or in combination with other elastic parts;
- made up of elastomer and other materials, adherent together or not.

This European Standard does not apply to:

- rubber diaphragms for pneumatic suspension springs;
- elastic parts of buffing and drawgear springs;
- diaphragms, bellows and seals;
- hoses and tubings;
- transmission belts.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

ISO 31-1, *Quantities and units – Part 1: Space and time.*

ISO 31-3, *Quantities and units – Part 3: Mechanics.*

ISO 188, *Rubber, vulcanized or thermoplastic – Accelerated ageing and heat-resistance tests.*

ISO 471, *Rubber – Temperatures, humidities and times for conditioning and testing.*

ISO 1382, *Rubber – Vocabulary.*

ISO 1817, *Rubber, vulcanised – Determination of the effect of liquids.*

ISO 2781, *Rubber, vulcanised – Determination of density.*

ISO 4649, *Rubber, vulcanized or thermoplastic – Determination of abrasion resistance using a rotating cylindrical drum device.*

ISO 9227, *Corrosion test in artificial atmospheres – Salt spray tests.*

ISO 10209-1, *Technical product documentation – Vocabulary – Part 1: Terms relating to technical drawings: general and types of drawings.*

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

For the purposes of this European Standard, the following terms and definitions and those given in ISO 1382 apply.

3.1.1

component

elastomer-based mechanical part

NOTE Clause 1 describes them.

3.1.2

static creep

displacement increase, occurring after a specified period of time, of a component subjected to a constant static force

3.1.3

dynamic creep

displacement increase, occurring after a specified period of time, of a component subjected to a dynamic force oscillating about a constant static force

3.1.4

static relaxation

force decrease, occurring after a specified period of time, of a component subjected to a constant displacement