

---

---

**Leaf springs — Technical  
specifications**

*Ressorts à lames — Spécifications techniques*



This document is a preview generated by EBS



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
[copyright@iso.org](mailto:copyright@iso.org)  
[www.iso.org](http://www.iso.org)

# Contents

Page

<b>Foreword</b>	<b>iv</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>1</b>
<b>3 Terms and definitions</b>	<b>1</b>
<b>4 Symbols</b>	<b>1</b>
<b>5 Spring types</b>	<b>2</b>
<b>6 Technical requirements</b>	<b>7</b>
6.1 Materials	7
6.2 Tolerances of spring dimensions and shapes	7
6.2.1 Span	7
6.2.2 Assembled spring width	7
6.2.3 Spring end width	8
6.2.4 Eye inner diameter and bush inner diameter	8
6.2.5 Flank bending	8
6.2.6 Perpendicularity and parallelism of the spring eye	9
6.3 Requirements for characteristic	10
6.3.1 Spring rate	10
6.3.2 Design camber	10
6.3.3 Fatigue	10
6.4 Requirements for manufacturing	10
6.4.1 Hardness	10
6.4.2 Decarburization	10
6.4.3 Shot peening	10
6.4.4 Presetting	11
6.4.5 Lubricant and surface protection	11
6.4.6 Surface conditions	11
<b>7 Designation</b>	<b>11</b>
<b>Annex A (informative) Test methods of leaf springs</b>	<b>12</b>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 227, *Springs*.

# Leaf springs — Technical specifications

## 1 Scope

This International Standard specifies the technical specifications for leaf springs.

This International Standard is applicable to leaf springs for road vehicle (hereinafter simply “springs”). The leaf springs for other vehicle may refer to this International Standard.

## 2 Normative references

The following referenced documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 683-14, *Heat-treatable steels, alloy steels and free-cutting steels — Part 14: Hot-rolled steels for quenched and tempered springs*

ISO 3887, *Steels — Determination of depth of decarburization*

ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 16249, *Springs — Symbols*

ISO 18265, *Metallic materials — Conversion of hardness values*

ISO 26909, *Springs — Vocabulary*

ISO 26910-1, *Springs — Shot peening — Part 1: General procedures*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 26909 and [Table 1](#) apply.

## 4 Symbols

For the purposes of this document, the symbols and units given in ISO 16249 and [Table 1](#) apply.

**Table 1 — Terms, symbols and units**

Term	Symbol	Unit	Meaning
Spring end width	$b_A$	mm	Width of the spring eye or sliding end.
Assembled spring width	$b_E$	mm	Width of the assembly in the range of U-clamping.
Camber	$C$	mm	Perpendicular distance from the surface where tensile stress is generated in use, of the uppermost leaf at the centre pin or the centre bolt, to the straight line connecting the centers of both eyes or connecting the load-supporting points of the spring.
Free camber	$C_0$	mm	Camber when free or at zero load.
Design camber	$C_d$	mm	Camber under design (nominal) load.