

---

---

## Dentistry — Wires for use in orthodontics

*Art dentaire — Fils pour utilisation en orthodontie*



**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS

© ISO 2006

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

Foreword.....	iv
Introduction .....	v
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions.....	1
4 Classification.....	2
5 Requirements .....	3
5.1 General.....	3
5.2 Dimensions.....	3
5.3 Austenite-finish temperature .....	3
5.4 Mechanical properties .....	3
5.5 Hazardous elements .....	3
6 Test methods.....	3
6.1 Sampling.....	3
6.2 Dimensions.....	3
6.3 Austenite-finish temperature .....	4
6.4 Mechanical tests .....	4
7 Packaging and labelling information to be provided to the user .....	7
7.1 General requirements .....	7
7.2 Packaging .....	7
7.3 Labelling .....	8
Bibliography .....	9

## 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 15841 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 1, *Filling and restorative materials*.

## Introduction

This first edition of ISO 15841 has been developed as a result of the difficulty often encountered by clinicians in making meaningful comparisons between wires using the information currently available from manufacturers and suppliers.

This document is a preview generated by EVS

This document is a preview generated by EVS

# Dentistry — Wires for use in orthodontics

## 1 Scope

This International Standard specifies requirements and test methods for wires to be used in fixed and removable orthodontic appliances. It includes preformed orthodontic archwires but excludes springs and other preformed components.

This International Standard gives detailed requirements concerning the presentation of the physical and mechanical properties of orthodontic wires, the test methods by which they can be determined, packaging, and labelling information.

Specified qualitative and quantitative requirements for freedom from biological hazard are not included in this International Standard but it is recommended that to assess possible biological or toxicological hazards, reference should be made to ISO 7405 and ISO 10993-1.

## 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.

ISO 1942, *Dentistry — Vocabulary*

ISO 6892, *Metallic materials — Tensile testing at ambient temperature*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942 and the following apply.

### 3.1

#### **austenite-finish temperature**

$T_{af}$

temperature at which the metallurgical transformation from the low-temperature martensite phase to the high-temperature austenite phase is completed

### 3.2

#### **bending stiffness**

$S_b$

increment of load to produce a unit increment of deflection in the proportional region, expressed in N/mm (e.g. used in the bend test)

### 3.3

#### **descriptor**

code to identify the nominal cross-sectional dimension(s) of a wire in thousandths of an inch without unit designation, in accordance with accepted orthodontic practice (e.g., 16, 18, 17 × 25, 21 × 21)