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Dentistry — Coiled springs for use in orthodontics

Médecine bucco-dentaire — Ressorts hélicoïdaux à usage orthodontique

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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.

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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 106, *Dentistry*, Subcommittee SC 1, *Filling and restorative materials*.

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Introduction

This International Standard has been developed to specify the information provided by manufacturers and suppliers to help clinicians compare coiled springs.

Specific qualitative and quantitative test methods for demonstrating freedom from unacceptable biological hazard are not included in this International Standard, but for the assessment of possible biological or toxicological hazards, reference can be made to ISO 10993-1 and ISO 7405.

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Dentistry — Coiled springs for use in orthodontics

1 Scope

This International Standard applies to coiled springs for use in orthodontic appliances.

This International Standard gives details of methods to compare the physical and mechanical properties of coiled springs, the test methods by which they can be determined, as well as packaging and labelling requirements.

2 Normative references

The following 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 1942, *Dentistry — Vocabulary*

3 Terms and definitions

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

3.1
inner (internal spring) diameter
d_i
maximum outside diameter of a tube that could be contained within a coiled spring

Note 1 to entry: See Figure 1.

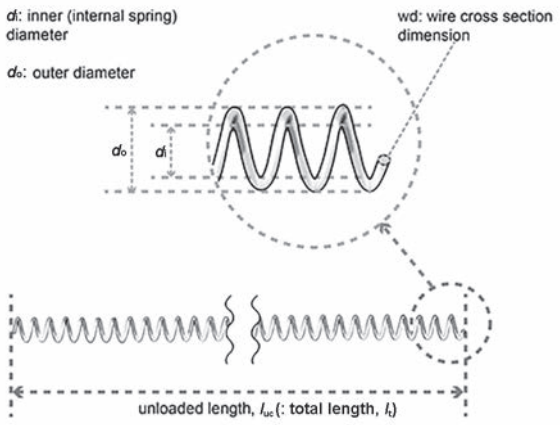


Figure 1 — Coiled Spring Dimensions

3.2
outer diameter
d_o
minimum inside diameter of a tube within which a coiled spring could be contained

Note 1 to entry: See Figure 1.

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3.3
wire cross section dimensions
wd
cross section dimensions of the wire used to manufacture the spring

Note 1 to entry: See Figure 1.

3.4
unloaded spring length
l_{uc}
<compression springs> overall length in the unloaded position

Note 1 to entry: See Figure 1.

3.5
unloaded spring length
l_{ue}
<extension springs> maximum dimension including the hooks, eyelets or connection means in the unloaded position

Note 1 to entry: See Figure 2.

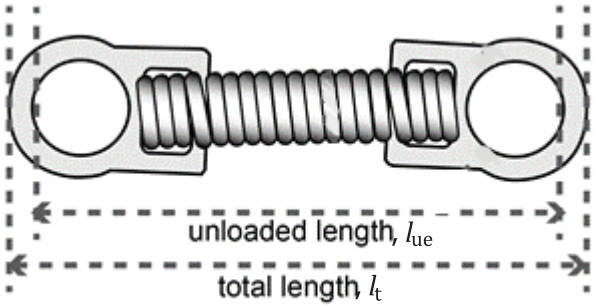


Figure 2 — Coiled Springs Dimensions with Attachments.

3.6
total spring length
l_t
for springs with attachments, maximum dimension including the hooks, eyelets or connection means in the unloaded position.

3.7
maximum compression
c_{max}
percentage of the spring at complete compression against the unloaded spring length

3.8
maximum extension
ε_{max}
lengthening of the spring, in percent, required to produce a permanent deflection of 1 % of the unloaded spring length

3.9
spring load
$L_{80\%max}$, $L_{60\%max}$, $L_{40\%max}$, $L_{20\%max}$
force exerted by the spring on the return (unloading) cycle following loading to the specified maximum extension or compression at 80 %, 60 %, 40 %, 20 % of the maximum extension or compression

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