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Second edition  
2009-11-15

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## **Mechanical properties of corrosion-resistant stainless steel fasteners —**

### **Part 1: Bolts, screws and studs**

*Caractéristiques mécaniques des éléments de fixation en acier inoxydable résistant à la corrosion —*

*Partie 1: Vis et goujons*



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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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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 3506-1 was prepared by Technical Committee ISO/TC 2, *Fasteners*, Subcommittee SC 1, *Mechanical properties of fasteners*.

This second edition cancels and replaces the first edition (ISO 3506-1:1997), which has been technically revised.

ISO 3506 consists of the following parts, under the general title *Mechanical properties of corrosion-resistant stainless steel fasteners*:

- *Part 1: Bolts, screws and studs*
- *Part 2: Nuts*
- *Part 3: Set screws and similar fasteners not under tensile stress*
- *Part 4: Tapping screws*

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## Introduction

In the preparation of this part of ISO 3506, special attention has been given to the fundamentally different property characteristics of the stainless steel fastener grades compared with those of carbon steel and low-alloy steel fasteners. Ferritic and austenitic stainless steels are strengthened only by cold working and consequently, the components do not have as homogeneous local material properties as hardened and tempered parts. These special features have been recognized in the elaboration of the property classes and the test procedures for mechanical properties. The latter differ from the carbon steel and low-alloy steel fastener test procedures with regard to the measurement of the stress at 0,2 % permanent strain (yield stress) and ductility (total elongation after fracture).