
**Steel — Measurement method for the
evaluation of hydrogen embrittlement
resistance of high strength steels —**

**Part 1:
Constant load test**

*Acier — Méthode de mesure pour l'évaluation de la résistance à la
fragilisation par l'hydrogène des aciers à haute résistance —*

Partie 1: Essai de charge constante

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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.

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).

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This document was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 7, *Methods of testing (other than mechanical tests and chemical analysis)*.

This edition cancels and replaces the first edition (ISO 16573:2015), which has been technically revised. The main changes compared to the previous edition are as follows:

- the addition of a note to provide the definition of ρ as the radius of the notch bottom. The definition of r was unclear and was used in a different way in 2b).
- the temperature in [6.1](#) and [Clause 7](#) where different, the temperature below -50 °C is used;
- the addition of Figures of unbroken notched specimen and unbroken smooth specimen;
- the addition of research papers in Bibliography.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The mechanical properties of high strength steels, such as tensile strength, elongation and reduction of area, would be degraded by the effect of hydrogen, known as hydrogen embrittlement, and the susceptibility of hydrogen embrittlement becomes greater with increasing the strength level of steels. This document suggests a standardized test method for the evaluation of hydrogen embrittlement resistance of high strength steels.

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