
**Diesel engines — Steel tubes for high-
pressure fuel injection pipes —**

Part 1:

**Requirements for seamless cold-drawn
single-wall tubes**

*Moteurs diesels — Tubes en acier pour lignes d'injection de
combustible à haute pression —*

Partie 1: Exigences pour les tubes monoparoi sans soudure étirés à froid



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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
Web www.iso.org

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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.

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 8535-1 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 7, *Injection equipment and filters for use on road vehicles*.

This fifth edition cancels and replaces the fourth edition (ISO 8535-1:2006), which has been technically revised.

ISO 8535 consists of the following parts, under the general title *Diesel engines — Steel tubes for high-pressure fuel injection pipes*:

- *Part 1: Requirements for seamless cold-drawn single-wall tubes*
- *Part 2: Requirements for composite tubes*

NOTE The first part of the general title, “*Diesel engines*”, is used for Part 1 only; for Part 2 “*Compression-ignition engines*” is still used but will be replaced at the next revision.

Diesel engines — Steel tubes for high-pressure fuel injection pipes —

Part 1: Requirements for seamless cold-drawn single-wall tubes

1 Scope

This part of ISO 8535 specifies dimensions and requirements for seamless cold-drawn single-wall steel tubes for high-pressure fuel injection pipes used on diesel (compression-ignition) engines (class 2) and for fuel injection pump testing (class 1).

It applies to diesel (compression-ignition) engines.

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 404, *Steel and steel products — General technical delivery requirements*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 12345, *Diesel engines — Cleanliness assessment of fuel injection equipment*

3 Dimensions and tolerances

3.1 Diameters

Recommended inside and outside diameters are given in Table 1. Other sizes may be used by agreement between supplier and customer.

Tolerances on inside and outside diameters shall be as follows:

a) Inside diameter, d

$d \leq 4$ mm: $\pm 0,05$ mm for class 2
 $\pm 0,025$ mm for class 1¹⁾

$d > 4$ mm: $\pm 0,10$ mm.

NOTE Classes 1 and 2 are explained in Clause 1.

1) These tolerances are in accordance with ISO 4093.