

INTERNATIONAL STANDARD

**ISO
4200**

Fourth edition
1991-02-15

Plain end steel tubes, welded and seamless — General tables of dimensions and masses per unit length

*Tubes lisses en acier, soudés, et sans soudure — Tableaux généraux des
dimensions et des masses linéiques*



Reference number
ISO 4200 : 1991 (E)

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.

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.

International Standard ISO 4200 was prepared by Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings*, Sub-Committee SC 1, *Steel tubes*.

This fourth edition cancels and replaces the third edition (ISO 4200 : 1985), tables 2 and 3 of which have been technically revised by the addition of the outside diameter of 12,7 mm to series 2.

Annex A of this International Standard is for information only.

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Printed in Switzerland

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Introduction

This International Standard has two main purposes:

- to give guidance on the selection of sizes for all activities concerned with the standardization of steel tubes, both nationally and internationally;
- to serve as a ready reckoner and to avoid the use by different countries of different masses for a tube of the same size.

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1 Scope

This International Standard gives tables of dimensions, in millimetres, and masses per unit length, in kilograms per metre, of plain end steel tubes.

It covers two groups of tubes :

- Group 1: tubes for general purpose use (see table 2);
- Group 2: precision tubes (see table 3).

The outside diameters are classified into three series for group 1 and into two series for group 2.

The classification of outside diameters and the selection of preferred thicknesses offers information on which tube dimensions should be selected for national and international standards for either general purposes or particular use and application. The use of this information will ensure the selection of the most favourable dimensions for particular purposes.

It should be noted that the inclusion in tables 2 and 3 of a mass for a given size of tube, which does not have a series 1 outside diameter and preferred thickness, does not necessarily mean that it is available.

Should the mass of a tube of dimensions other than those given in tables 2 and 3 be required, it has to be calculated using the formula given in clause 4.

This International Standard is not applicable to tubes primarily intended to be screwed in accordance with ISO 7-1^[1]. The masses of such tubes, both screwed and plain end, are given in ISO 65^[2].

2 Classification of outside diameters

In International Standards on steel tubes, the outside diameters of tubes are classified into three series defined as follows.

- **Series 1:** Series for which all the accessories needed for the construction of piping systems are standardized.
- **Series 2:** Series for which not all accessories are standardized.
- **Series 3:** Series for special application for which very few standardized accessories exist; some of these diameters may be withdrawn in due course.

3 Selection of preferred dimensions for tubes of group 1

Table 1 gives seven ranges of preferred thicknesses, related to series 1 outside diameters, based upon the principle of isobaric series and applicable to tubes and butt-welding accessories; the three strongest ranges are common to all steel grades. The four ranges of thicknesses D, E, F and G are normally in use for tubular products of non-alloy and alloy steels, and the six