INTERNATIONAL STANDARD

ISO 3545-2

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Steel tubes and fittings — Symbols for use in specifications —

Part 2:
Square and rectangular hollow sections

Tubes et raccords en acier — Symboles à utiliser dans les spécifications —

Partie 2: Profils creux à section carrée ou rectangulaire

Reference number
ISO 3545-2 : 1989 (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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3545-2 was prepared by Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings*.

ISO 3545 consists of the following parts, under the general title *Steel tubes and fittings — Symbols for use in specifications*:

- *Part 1: Tubes and tubular accessories with circular cross-section*
- *Part 2: Square and rectangular hollow sections*
- *Part 3: Tubular fittings with circular cross-section*

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Steel tubes and fittings — Symbols for use in specifications —

Part 2 :
Square and rectangular hollow sections

1 Scope

This part of ISO 3545 defines the most common symbols with the aim of standardizing and facilitating the use of terminology in standards for steel hollow sections and associated products.

2 Fundamental symbols (see figures 1 and 2)

B = length of side of square hollow section; length of shorter side of rectangular hollow section

H = length of longer side of rectangular hollow section

T = specified thickness

r_i = inner corner radius

r_o = outer corner radius

r_m = mean corner radius

r_{calc} = corner radius used for calculation of properties

r_{max} = maximum permitted outside corner radius

3 Symbols for tolerances

See ISO 5252 : 1977, *Steel tubes — Tolerance systems*.

Q = squareness of sides

X = concavity or convexity (see figure 3)

V = twist (see figure 4)

4 Symbols for specifications (see figure 5)

I = moment of inertia

I_x = moment of inertia about the x axis

I_y = moment of inertia about the y axis[1)]

W = section modulus

W_x = section modulus about the x axis

$$W_x = \frac{I_x}{H/2}$$

W_y = section modulus about the y axis[1)]

$$W_y = \frac{I_y}{B/2}$$

A = cross-sectional area

i = radius of gyration

i_x = radius of gyration about the x axis

$$i_x = \sqrt{\frac{I_x}{A}}$$

i_y = radius of gyration about the y axis[1)]

$$i_y = \sqrt{\frac{I_y}{A}}$$

Z = plastic modulus

Z_x = plastic modulus about the x axis

Z_y = plastic modulus about the y axis[1)]

J = torsional inertia constant

C = torsional modulus constant

1) In the case of square hollow sections, all criteria and parameters are equal.