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**BS ISO 14346:2013**



BSI Standards Publication

# Static design procedure for welded hollow-section joints — Recommendations

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## Static design procedure for welded hollow-section joints — Recommendations

*Procédure statique de conception des joints soudés à section creuse —  
Recommandations*



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## Contents

Page

Foreword .....	v
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms and definitions .....</b>	<b>1</b>
<b>4 Symbols and abbreviated terms .....</b>	<b>2</b>
<b>5 Requirements .....</b>	<b>5</b>
<b>6 Materials .....</b>	<b>12</b>
<b>7 Joint types .....</b>	<b>13</b>
<b>8 Joint classification .....</b>	<b>19</b>
<b>9 Limit states design .....</b>	<b>23</b>
<b>10 Partial load and safety factors for loads and resistances .....</b>	<b>24</b>
<b>11 Static design procedures .....</b>	<b>24</b>
11.1 General .....	24
11.2 Design member forces .....	24
11.3 Design resistance .....	24
11.4 Design criteria .....	25
<b>12 Design member forces .....</b>	<b>25</b>
12.1 Analysis methods .....	25
12.2 Design member forces .....	26
<b>13 Design criteria .....</b>	<b>26</b>
13.1 Failure modes .....	26
13.2 Uniplanar joints .....	26
13.3 Uniplanar overlap joints with a CHS, RHS, I- or H-section chord .....	28
13.4 Special uniplanar joints .....	29
13.5 Multiplanar joints .....	30
<b>14 Design resistance of uniplanar CHS braces to CHS chord joints .....</b>	<b>30</b>
14.1 Design axial resistance .....	30
14.2 Design moment resistance .....	31
<b>15 Design resistance of uniplanar gusset plates, I- or H-section braces or RHS braces to CHS chord joints .....</b>	<b>32</b>
<b>16 Design resistance of multiplanar joints with CHS chord .....</b>	<b>33</b>
<b>17 Design resistance of uniplanar RHS braces or CHS braces to RHS chord joints .....</b>	<b>34</b>
17.1 Design axial resistance .....	34
17.2 Design moment resistance .....	36
<b>18 Design resistance of uniplanar SHS or CHS braces to SHS chord joints .....</b>	<b>37</b>
18.1 Design axial resistance .....	37
18.2 Design moment resistance .....	38
<b>19 Design resistance of uniplanar gusset plate to RHS joints .....</b>	<b>38</b>
<b>20 Design resistance of multiplanar joints with RHS chord .....</b>	<b>39</b>
<b>21 Design resistance of uniplanar CHS or RHS braces to I- or H-section chord joints .....</b>	<b>40</b>
21.1 Design axial resistance .....	40
21.2 Design moment resistance .....	42
<b>22 Design resistance of uniplanar overlap joints with a CHS, RHS, I- or H-section chord .....</b>	<b>42</b>
<b>Annex A (informative) Quality requirements for hollow sections .....</b>	<b>46</b>

This is a preview of "BS ISO 14346:2013". [Click here to purchase the full version from the ANSI store.](#)

<b>Annex B (informative) Weld details</b> .....	<b>48</b>
<b>Annex C (informative) Partial safety factors on static strength</b> .....	<b>50</b>
<b>Bibliography</b> .....	<b>52</b>

This is a preview of "BS ISO 14346:2013". [Click here to purchase the full version from the ANSI store.](#)

## 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 14346 was prepared by the International Institute of Welding, which has been approved as an international standardizing body in the field of welding by the ISO Council.

Requests for official interpretations of any aspect of this International Standard should be directed to the ISO Central Secretariat, who will forward them to the IIW Secretariat for an official response.

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# Static design procedure for welded hollow-section joints — Recommendations

## 1 Scope

This International Standard gives guidelines for the design and analysis of welded uniplanar and multiplanar joints in lattice structures composed of circular (CHS), square (SHS) or rectangular (RHS) hollow sections, and of uniplanar joints in lattice structures composed of combinations of hollow sections with open sections under static loading. This International Standard is applicable to CHS or RHS Y-, X- and K-joints and their multiplanar equivalents, gusset plate to CHS or RHS joints, open-section and RHS to CHS joints, and hollow-section to open-section joints.

## 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 630 (all parts), *Structural steels*

ISO 14347, *Fatigue — Design procedure for welded hollow-section joints — Recommendations*

ISO/TR 25901, *Welding and related processes — Vocabulary*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14347, ISO/TR 25901, and the following apply.

### 3.1

#### **chord face failure**

#### **chord plastification**

plastic failure of the chord face or plastic failure of the chord cross-section

### 3.2

#### **chord punching shear**

crack initiation in a hollow-section chord wall leading to rupture of a brace member from the chord member

### 3.3

#### **chord side wall failure**

#### **chord web failure**

yielding, crushing or instability (crippling or buckling of the chord side wall or chord web) under the relevant brace member

### 3.4

#### **cross-section classification**

identification of the extent to which the resistance (to axial compression or bending moment) and rotation capacity of a cross-section are limited by its local buckling resistance

Note 1 to entry: For example, four classes are given in Eurocode 3 (see EN 1993-1-1) together with three limits on diameter-to-thickness ratio for CHS or width-to-thickness ratio for RHS.