

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 12779 (1989): Rolling and cutting tolerances for hot rolled parallel flange beam and column sections [CED 7: Structural Engineering and structural sections]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



IS : 12779 - 1989

Indian Standard

**ROLLING AND CUTTING TOLERANCES FOR
HOT ROLLED PARALLEL FLANGE BEAM
AND COLUMN SECTIONS — SPECIFICATION**

(Second Reprint FEBRUARY 1997)

UDC 669.14 - 423.2 : 621.753.1

© BIS 1990

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

March 1990

Price Group 2

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards on 21 August 1989, after the draft finalized by the Structural Sections Sectional Committee had been approved by the Civil Engineering Division Council.

This standard has been prepared with a view to provide with a set of rolling tolerances in the rolling of parallel flange beam and column section, proposed to be rolled in the steel plants. Dimensions of hot rolled parallel flange beam and column sections have been covered in IS 12778 : 1989.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

ROLLING AND CUTTING TOLERANCES FOR HOT ROLLED PARALLEL FLANGE BEAM AND COLUMN SECTIONS — SPECIFICATION

1 SCOPE

1.1 This standard covers the rolling and cutting tolerances applicable to hot rolled steel parallel flange beam and column sections conforming to the dimensions specified in IS 12778 : 1989.

2 REFERENCE

IS No.	Title
12778 : 1989	Hot rolled steel parallel flange beam and column sections — Dimensions

3 DIMENSIONAL TOLERANCES

3.1 Depth, D

The tolerances on depth of beam/column shall be as follows (see Fig. 1):

Depth, D	Tolerance
mm	mm
≤ 400	± 3
> 400	± 4

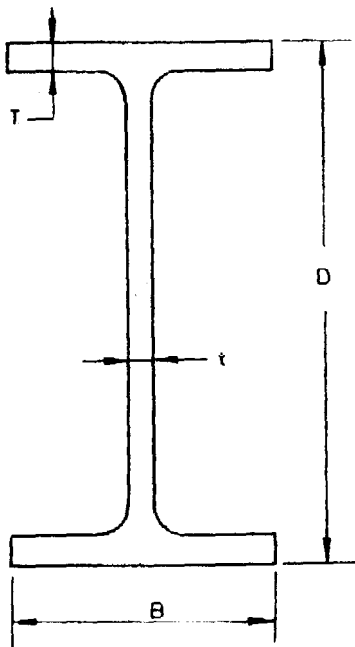


FIG. 1 PARALLEL FLANGE SECTION

3.2 Flange Width, B

The tolerance on flange width shall be as follows (see Fig. 1):

Flange Width, B	Tolerance
mm	mm
All widths	± 3

3.3 Flange Thickness, T

The tolerance on flange thickness shall be as follows (see Fig. 1):

Flange Width, B	Tolerance
mm	mm
$B \leq 100$	± 1.0
$100 < B < 250$	± 1.5
$250 > B$	± 2.0

3.4 Web Thickness, t

The tolerances on web thickness shall be as under (see Fig. 1):

Web Thickness, t	Tolerance
mm	mm
$t \leq 6$	± 0.7
$t > 6$	± 1.0

3.5 Flange Out of Square or Out of Parallel

The flanges shall be parallel ($R + R'$) within 1.5 percent of flange width. Tolerance for the individual flange R or R' with respect to horizontal plane shall also not exceed 2 mm (see Fig. 2).

3.6 Web Bow, f

Tolerances on the web bow f , shall be limited to as follows (see Fig. 3):

- 1.5 mm up to 400 mm depth, and
- 2.0 mm above 400 mm depth

3.7 Off Centre of Web, e

Tolerance on off-centre of web shall be as under: (see Fig. 4):

Depth of Section, D	Tolerance, e
mm	mm
< 300	± 2.5
> 300	± 3.5

3.8 Camber and Sweep, q

Permissible limits on camber and sweep shall be 0.15 percent of length for depth of beam/column section up to 400 mm and 0.10 percent of length for section of depth more than 400 mm (see Fig. 5).

3.9 Squareness of Cut Section, a

Squareness of cut section shall be within 1.6 percent of depth or flange width of beam/column section, subject to a maximum of 3 mm (see Fig. 6).

4 MASS TOLERANCES

4.1 The tolerance on mass per metre of individual section shall be ± 4 percent of the specified mass given in IS 12778 : 1989. Mass tolerances for lot however shall be within ± 3 percent of the specified values.

5 CUTTING TOLERANCES

5.1 Cutting tolerance for all lengths of the section shall be within + 100, - 0 mm from the specified values.

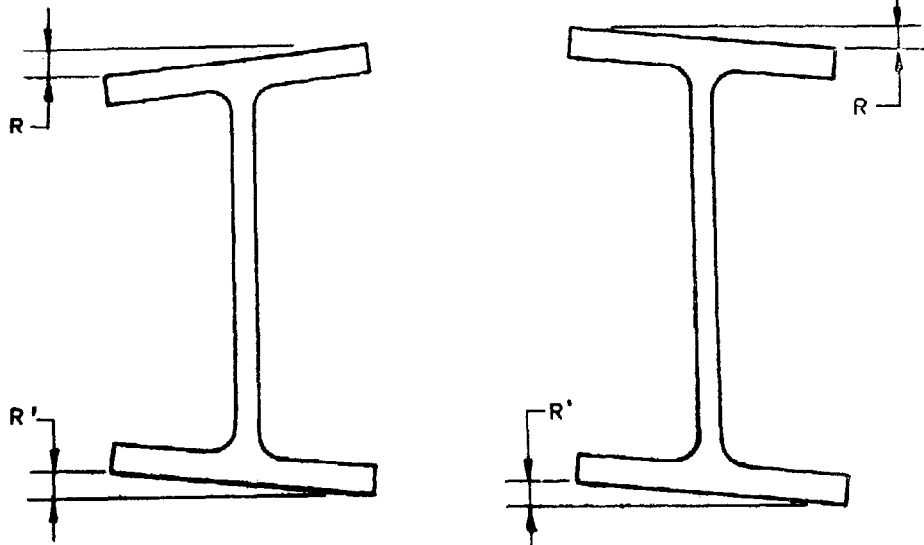


FIG. 2 FLANGES OUT OF SQUARE OR OUT OF PARALLEL

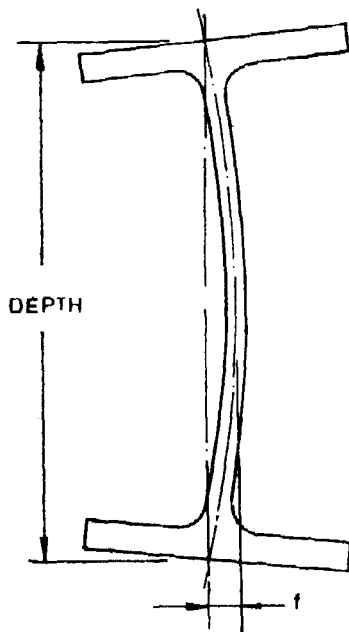


FIG. 3 WEB BOW

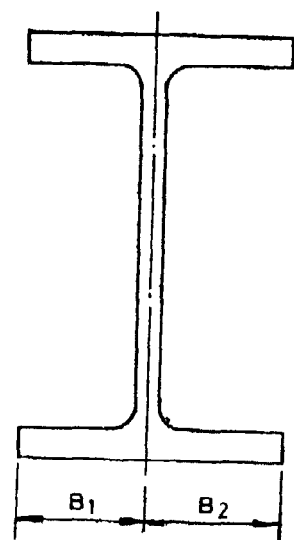


FIG. 4 WEB OUT OF CENTRE

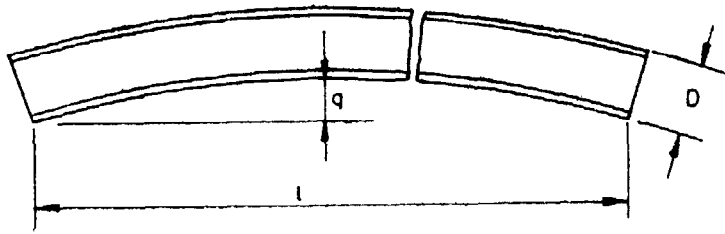


FIG. 5 CAMBER AND SWEEP

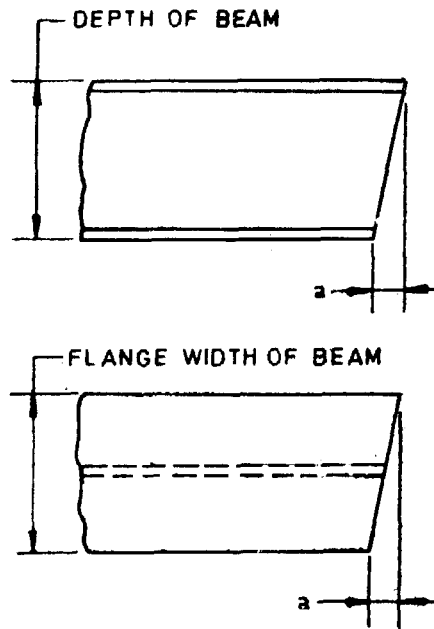


FIG. 6. SQUARENESS OF CUT SECTION

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publication), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Handbook' and 'Standards Monthly Additions'.

This Indian Standard has been developed from Doc : No. CED 8 (4731)

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones: 323 01 31, 323 33 75, 323 94 02

Telegrams: Manaksanstha
(Common to all offices)

Regional Offices:

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg
NEW DELHI 110002

Telephone
323 76 17, 323 38 41

Eastern : 1/14 C.I.T. Scheme VII M, V.I.P. Road, Maniktola
CALCUTTA 700054

{ 337 84 99, 337 85 61
{ 337 86 26, 337 91 20

Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160022

{ 60 38 43
{ 60 20 25

Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600113

{ 235 02 16, 235 04 42
{ 235 15 19, 235 23 15

Western : Manakalaya, E9 MIDC, Marol, Andheri (East)
MUMBAI 400093

{ 832 92 95, 832 78 58
{ 832 78 91, 832 78 92

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR.
COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI.
HYDERABAD. JAIPUR. KANPUR. LUCKNOW. NAGPUR.
PATNA. PUNE. THIRUVANANTHAPURAM.