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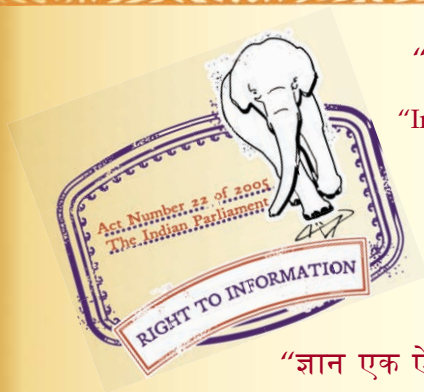
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IS 2591 (1982): Dimensions for Hot Rolled Steel Bars for Threaded components [MTD 4: Wrought Steel Products]



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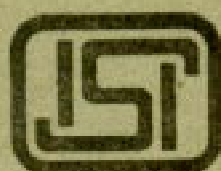
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IS : 2591 - 1982

*Indian Standard*  
DIMENSIONS FOR  
HOT ROLLED STEEL BARS FOR  
THREADED COMPONENTS  
( *Second Revision* )

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

# *Indian Standard*

## DIMENSIONS FOR HOT ROLLED STEEL BARS FOR THREADED COMPONENTS

### *( Second Revision )*

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*Indian Standard*  
DIMENSIONS FOR  
HOT ROLLED STEEL BARS FOR  
THREADED COMPONENTS  
( *Second Revision* )

0. FOREWORD

**0.1** This Indian Standard ( Second Revision ) was adopted by the Indian Standards Institution on 25 November 1982, after the draft finalized by the Wrought Steel Products Sectional Committee had been approved by the Structural and Metals Division Council.

**0.2** This standard was first published in 1964 and was revised in 1969. While reviewing the standard in the light of the experience gained during these years, the committee has felt it necessary to revise the standard to bring it in line with the existing practices being followed in the country in this field.

**0.3** While special consideration has been given to cover round and hexagonal hot rolled bars required for the threaded fastener industry, the requirements regarding square bars have not been included in this standard as they are not used in the threaded fastener industry in any appreciable quantities, but these may be available, if so required by the purchaser.

**0.4** For the benefit of the purchaser an informative Appendix ( *see* Appendix A ) giving particulars to be specified by the purchaser while ordering for hot rolled bars has been included.

**0.5** 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\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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**1. SCOPE**

**1.1** This standard prescribes the sizes and tolerances of hot rolled bars for the manufacture of threaded components.

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\*Rules for rounding off numerical values ( *revised* ).

## **2. SUPPLY OF MATERIAL**

**2.1** General requirements relating to the supply of hot rolled bars for threaded components shall conform to IS:8910-1978\*.

**2.2** If agreed to between the purchaser and the manufacturer, the material may be supplied on coils.

## **3. MATERIAL**

**3.1** The material shall conform to the requirements specified in the relevant Indian Standard specifications.

## **4. FREEDOM FROM DEFECTS**

**4.1** The finished material shall be reasonably free from cracks, surface flaws, laminations and other harmful surface defects.

**4.2** If required, bars may be tested for non-destructive tests, such as dye-penetrant, magna-flux tests, etc, subject to mutual agreement between the supplier and the purchaser.

## **5. DIMENSIONS AND TOLERANCES**

**5.1** The dimensions and tolerances of round and hexagonal bars shall be as given in Table 1.

**5.2** Unless specified otherwise, the bars shall be supplied in lengths of not less than 2.5 m.

**5.3 Ovality and Out-of-Hexagon** — The permissible ovality for round bars measured as the difference between the maximum and minimum diameters, and the out-of-hexagon for hexagonal bars measured as the distance between parallel faces across any cross section shall be as given in Table 1.

**5.4 Straightness Tolerance** — The bars shall appear straight to eye. Unless otherwise agreed to the permissible deviation shall not exceed 3 mm per metre.

NOTE — These tolerances are not applicable to bars supplied in coils.

## **6. MARKING**

**6.1** Bars of sizes 50 mm and below shall be bundled as agreed to between the purchaser and manufacturer. The metal tag attached to each bundle shall be marked with the following:

- i) Cast number,
- ii) Manufacturer's name or trade-mark, and
- iii) Any other information required by the purchaser.

**6.2** The colour schemes specified in IS:2049-1978† or as required by the purchaser may be adopted to mark the grade of material.

\*General technical delivery requirements for steel and steel products.

†Colour code for the identification of wrought steel for general engineering purposes  
( first revision ).

**TABLE 1 DIMENSIONS AND TOLERANCE OF HOT ROLLED BARS***( Clauses 5.1 and 5.3 )*

ROUND BARS		HEXAGONAL BARS	
Diameter ( Nominal )	Tolerance	Width Across Flats ( Nominal )	Tolerance
mm	mm	mm	mm
6	±0.2	10	+0.00 -0.70
7		11	
8		13	
10		17	
12		19	
14	±0.3	22	+0.00 -3.0 percent of width across flat
16		24	
18		27	
20		30	
22		32	
24		36	
27		41	
30		46	
33		50	
		55	
		60	

NOTE 1 — 'Out-of-roundness' for round bars shall be not more than 75 percent of total tolerance on diameter.

NOTE 2 — 'Out-of-Hexagon' for hexagonal bars shall be not more than 75 percent of tolerance on width across flat.

## APPENDIX A

*( Clause 0.4 )*

### BASIS FOR ORDER

**A-1.** While placing an order for the steels covered by this standard, the purchaser should specify clearly the following:

- i) Steel grade;
- ii) Surface quality;
- iii) Size;
- iv) Tests and test reports required; and
- v) Special requirements in regard to testing, packing, despatching etc.

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