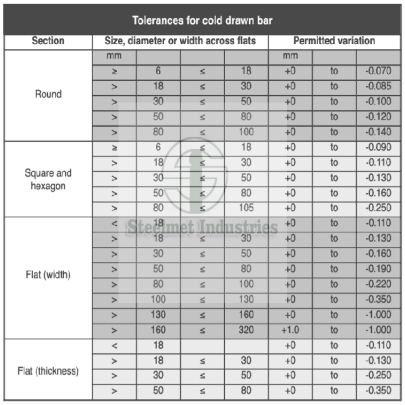

Tolerances for cold drawn bar							
Section	Size, diameter or width across flats				Permitted variation		
	mm				mm		
Round	≥	6	≤	18	+0	to	-0.070
	>	18	≤	30	+0	to	-0.085
	>	30	≤	50	+0	to	-0.100
	>	50	≤	80	+0	to	-0.120
	>	80	≤	100	+0	to	-0.140
Square and hexagon	≥	6	≤	18	+0	to	-0.090
	>	18	≤	30	+0	to	-0.110
	>	30	≤	50	+0	to	-0.130
	>	50	≤	80	+0	to	-0.160
	>	80	≤	105	+0	to	-0.250
Flat (width)	<	18			+0	to	-0.110
	>	18	≤	30	+0	to	-0.130
	>	30	≤	50	+0	to	-0.160
	>	50	≤	80	+0	to	-0.190
	>	80	≤	100	+0	to	-0.220
	>	100	≤	130	+0	to	-0.350
	>	130	≤	160	+0	to	-1.000
	>	160	≤	320	+1.0	to	-1.000
Flat (thickness)	<	18			+0	to	-0.110
	>	18	≤	30	+0	to	-0.130
	>	30	≤	50	+0	to	-0.250
	>	50	≤	80	+0	to	-0.350

IS 9550: Tolerance and Dimension Requirements for Bright Steel Bars

Description

IS 9550: Tolerance and Dimension Requirements for Bright Steel Bars

IS 9550:2001 specifies dimensional and straightness tolerances for **cold drawn, turned, ground, and turned & reeled bright steel bars**. These tolerances ensure precision, machinability, and compatibility in engineering applications.

At **Steelmet Industries**, we supply bright bars with full compliance to IS 9550, including tolerances for rounds, squares, flats, and hexagons across standard finish conditions.

Permissible Finish Conditions Under IS 9550

The tolerances apply based on the type of finish. The following table maps finished conditions to the applicable tolerance classes as per IS 919 (Part 2):

Table 1: Tolerance Classes by Finish Condition

Finished Condition	Applicable Tolerance Class	Applicable Shapes
Drawn	h10, h11, h12	Round, Square, Hexagon
Turned	h10, h11	Round, Square, Hexagon
Turned & Reeled	h10, h11	Round, Square, Hexagon
Ground	h6 to h12	Round only

Standard Tolerances for Round Bars

Table 2: Tolerances on Nominal Dimensions (in mm)

Nominal Diameter (mm)	h6	h9	h10	h11
6 – 10	±0.009	?0.036	?0.058	?0.090
10 – 18	±0.011	?0.043	?0.070	?0.110
18 – 30	±0.013	?0.052	?0.084	?0.130
30 – 50	±0.016	?0.062	?0.100	?0.160

Note: All deviations are negative, i.e., undersize. For example, a 20 mm h9 bar will have actual size 19.948 to 20.000 mm.

Width and Thickness Tolerances for Flats

Drawn flats are also covered in IS 9550. Tolerances depend on width and thickness:

Table 3: Width Tolerance (IS 919 h11)

Width (mm)	Plus (mm)	Minus (mm)
Up to 18	0	0.11
18 – 30	0	0.13
30 – 50	0	0.16
50 – 80	0	0.19

Table 4: Thickness Tolerance for Flats

Thickness (mm)	Max Negative Deviation (mm)
6 – 10	0.09
10 – 18	0.11
18 – 30	0.13
30 – 50	0.16

Straightness Tolerance

Unless otherwise agreed, the bar should not deviate more than **1.5 mm per 1 metre** of length.

Out-of-Shape Tolerance

Deviations in non-round shapes (e.g., square, hexagon) shall not exceed half the specified tolerance for that dimension.

Edge Profile Requirement

- Up to 150 mm width — sharp corners without radius
- Above 150 mm — slight undefined corner allowed (within 0.5 mm)

Length Tolerances

- Standard length: 2.5 to 4.5 metres
- Short lengths (min 1.5 m): Up to 10% of the batch
- Specific lengths: Tolerance of +8 mm

Steelmet Industries — Your Source for Accurate Bright Bars

We produce dimensionally accurate bright bars conforming to IS:9550, ideal for CNC machining, threading, forging, and assembly line use.

Contact Steelmet Industries for full traceability and precision-tolerance bars.

FAQs on IS 9550 Tolerances and Dimensions

What are h10 and h11 tolerances in IS 9550?
h10 and h11 refer to dimensional tolerance classes defined in IS 919. h10 is tighter, while h11 allows slightly higher deviation. IS 9550 uses these classes based on finish condition and shape.
What is the straightness tolerance for bright bars?
IS 9550 permits up to 1.5 mm deviation in any 1 m length for straightness unless otherwise agreed between buyer and manufacturer.
Are tolerances in IS 9550 positive or negative?
Tolerances in IS 9550 are negatively disposed — meaning the bars are undersized from the nominal size.

By Steelmet Industries Team – Experts in Special Steels

Category

1. IS:9550-2001

Tags

1. Bright Bar Tolerances
2. Dimensional accuracy
3. Flats and Squares
4. h10 h11 tolerances
5. IS 9550
6. ?????? ???????
7. Turned Bars
8. drawn bars
9. ground bars

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