

### GRANITE SURFACE PLATES (As per IS : 7327-2003)



Sizes in mm (L x B x H)	Grade O um
400 x 400 x 63	4.5
630 x 400 x 80	5
630 x 630 x 80	5
1000 x 630 x 150	6
1000 x 1000 x 150	7

Sizes in mm (L x B x H)	Grade O um
1200 x 900 x 150	7
1200 x 1200 x 150	8
1600 x 1000 x 200	8
2000 x 1000 x 200	9.5

- Can provide fabricated stand with levelling screws on request. The overall working height of surface plate with stand and levelling screw will be 900 mm (approx), from floor level

### CAST IRON SURFACE PLATES (IS : 2235-2003)

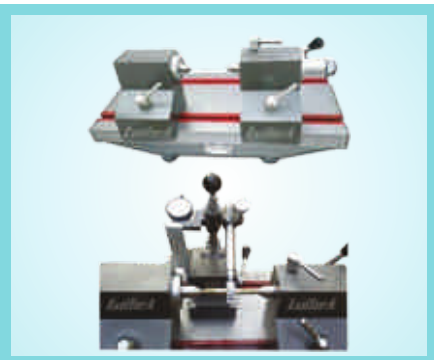


Sizes mm (L x B)	Grade O um	Grade 1 um
12" x 12"	3.5	7
12" x 18"	4.5	9
18" x 18"	4.5	9
18" x 24"	5	10
24" x 24"	5	10
24" x 30"	5	10
24" x 36"	6	12
36" x 36"	7	14
36" x 48"	7	14

Sizes mm (L x B)	Grade O um	Grade 1 um
250 x 250	3.5	7
400 x 400	4.5	9
630 x 400	5	10
630 x 630	5	10
600 x 750	5	10
1000 x 630	6	12
1000 x 1000	7	14
1200 x 600	7	14
1200 x 900	7	14
1200 x 1200	8	16
1000 x 1600	8	16
1000 x 2000	9.5	19
1200 x 1800	9.5	19

- Can provide fabricated stand with levelling screws on request. The overall working height of surface plate with stand and levelling screw will be 900 mm (approx), from floor level.
- Can provide special tapped holes and t-slots at the top working surface for fixing work or measuring instruments at extra cost. These are offered as per customers' specifications.

### CAST IRON BENCH CENTRE (IS : 5980-1978)



Sizes mm (L x B)	Centre Distance mm	Centre Height mm	Co-axiality of centres micron (um)	Parallellism of the axis of the centre with respect to guide ways.
300 x 125	300	125	10	10 um/300 mm
300 x 160	300	160	10	10 um/300 mm
500 x 160	500	160	15	10 um/300 mm
500 x 200	500	200	15	15 um/300 mm
750 x 160	750	160	20	10 um/300 mm
750 x 200	750	200	40	15 um/300 mm
1000 x 160	1000	160	20	10 um/300 mm
1000 x 200	1000	200	40	15 um/300 mm
1250 x 160	1250	160	20	10 um/300 mm
1250 x 200	1250	200	40	15 um/300 mm
1500 x 160	1500	160	20	10 um/300 mm
1500 x 200	1500	200	40	15 um/300 mm
2000 x 200	2000	200	40	15 um/300 mm
2000 x 250	2000	250	40	15 um/300 mm
2500 x 250	2500	250	40	15 um/300 mm
2500 x 300	2500	300	40	15 um/300 mm
2500 x 500	2500	500	60	20 um/300 mm

- Centres are made from high carbon steel hardened and ground finish, having morse taper MT-3 and are replaceable.
- Can provide fabricated stand with levelling screws on request. The overall working height of surface plate with stand and levelling screw will be 900 mm (approx), from floor level

### VERTICAL BENCH CENTRE (Grade 1)



Size mm	Centre distance mm	Centre Height mm	Accuracy in Microns (um)
150 x 75	150	75	10

### MINI BENCH CENTRE CAST IRON BASE (IS:5980-1978, Grade 1)



Size mm	Centre distance mm	Centre Height mm	Accuracy in Microns (um)
150 x 75	150	75	10

### Mini Bench Centre Granite Base (IS:5980-1978, Grade 1)



Size mm	Centre distance mm	Centre Height mm	Accuracy in Microns (um)
150 x 75	150	75	10

### Universal Bench Centre (Grade 1)



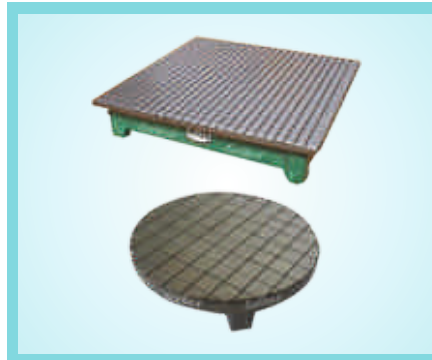
Centre distance mm	Centre Height mm	Accuracy in Microns (um)
300	160	10

### Surface Plate with Bench Centre (IS:2285-2003 & IS:5980-1978, Grade 1)



Size of Plate mm	Centre Distance mm	Centre Height mm
750 x 600	400	125
1000 x 630	600	160
1000 x 1000	600	200
1000 x 1600	1200	160
1000 x 2000	1600	200

### Cast Iron Lapping Plates (IS:2285:2003, Grade 1)



Round / Square mm	Accuracy um	Sizes mm	Accuracy um
100	5	300 x 450	9
200	5	450 x 600	10
250	7	600 x 900	12
300	7.5	1000 x 1000	14
400	9		
450	9		

- available in round, square and rectangular sizes
- Plates have 3 mm wide and 3 mm deep serrations on working surface equally spaced at 25 mm.

### GRANITE LAPPING PLATES (IS :7327-2003, Grade 1)

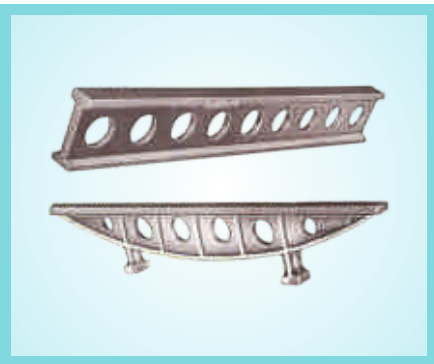


Square / Rectangular mm	Accuracy um
150 x 100	3
250 x 150	3.5
300 x 200	3.5
300 x 300	4

Square / Rectangular mm	Accuracy um
400 x 400	4.5
400 x 630	5
630 x 630	5

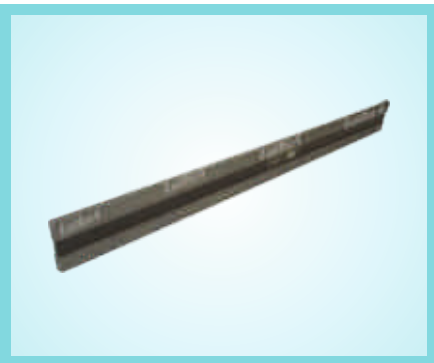
- Available in Square and Rectangular sizes and are made up of black granite.
- Plates have 3 mm wide and 3 mm deep serrations on working surface equally spaced at 25 mm.

### Cast Iron Straight Edges (IS 5268:1991 Grade-1)



Length of Straight Edge mm	Dimensions of parallel type straight edge			Tolerance on flatness of working surfaces & parallelism tolerance.
	Width of Working Surfaces mm	Overall Height mm	Flange Thickness mm	Grade 1 Microns (um)
500	35	100	12	5
1000	35	100	12	10
1500	50	150	15	15
2000	50	150	15	20
3000	60	190	15	30
4000	75	300	18	40
5000	80	300	18	50
6000	80	300	18	60

### Engineer's Steel Straight Edges (IS : 2220-1990, Grade-1)



Dimensions L X B X H mm	Straightness Microns um	Parallelism Microns um	Dimensions L X B X H mm	Straightness Microns um	Parallelism Microns um
300 x 35 x 8	12	24	2000 x 65 x 12	37	74
450 x 35 x 8	12	24	2500 x 65 x 12	46	92
600 x 50 x 8	15	30	3000 x 85 x 18	54	108
1000 x 50 x 8	21	42	4000 x 100 x 20	71	142
1200 x 55 x 10	25	50	5000 x 100 x 20	87	174
1500 x 65 x 12	29	58	6000 x 120 x 20	100	200

### Prismatic (Triangular) Straight Edges (IS : 8823-1978, Grade-1)



Length Millimetre (mm)	Angle between working Surfaces (in Degrees)			Tolerance on Flatness of Working Surfaces Microns um
	30	45	60	
	Width of working surfaces (mm)			
500	70	70	60	4
750	90	90	80	6
1000	110	110	100	8
1250	130	130	110	13
1500	130	130	110	13
2000	130	130	110	16

### Tool Maker's Knife Edges (IS 3512:1966, Grade 1)



Dimensions L X B X H mm	Accuracy Microns um
100 X 40 X 10	3
150 X 40 X 10	3
300 X 60 X 12	4

Dimensions L X B X H mm	Accuracy Microns um
450 X 60 X 12	5
500 X 60 X 12	5

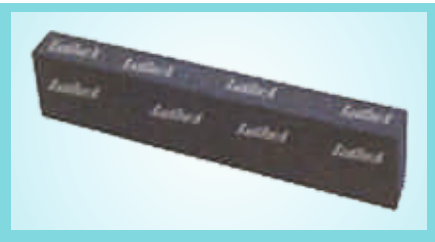
### Light Weight Aluminum Straight Edges



Size mm	Straightness Microns um	Parallelism Microns um
1000	21	42
1500	29	58
2000	37	74
2500	46	92

Size mm	Straightness Microns um	Parallelism Microns um
3000	54	108
4000	71	142
5000	87	174

### Granite Straight Edges



Sizes L x B x H mm	Accuracy in Microns um	
	Straightness	Parallelism
1000x 150 x 75	10	10
1500 x 200 x 75	15	15
2000 x 200 x 75	20	20

### Steel Parallel (IS-4241:1967, Grade 1)



Sizes (mm) L X B X H	Accuracy Microns um	
	Straightness	Parallelism
100 x 10 x 5	+/- 1.25	+/- 1.25
150 x 50 x 25	+/- 2.5	+/- 2.5
150 x 80 x 40	+/- 2.5	+/- 2.5
200 x 35 x 20	+/- 4.0	+/- 4.0

Sizes (mm) L X B X H	Accuracy Microns um	
	Straightness	Parallelism
250 x 45 x 25	+/- 4.0	+/- 4.0
250 x 60 x 30	+/- 4.0	+/- 4.0
300 x 60 x 30	+/- 5.0	+/- 5.0

### Granite Parallel



Sizes (mm) L X B X H	Accuracy Microns um	
	Straightness	Parallelism
100 x 40 x 20	+/- 1.25	+/- 1.25
150 x 50 x 25	+/- 2.5	+/- 2.5
150 x 80 x 40	+/- 2.5	+/- 2.5
200 x 75 x 50	+/- 4.0	+/- 4.0

Sizes (mm) L X B X H	Accuracy Microns um	
	Straightness	Parallelism
200 x 100 x 50	+/- 4.0	+/- 4.0
250 x 100 x 50	+/- 4.0	+/- 4.0
300 x 100 x 50	+/- 5.0	+/- 5.0

### Granite Comparator Stand



Model No.	Reference Surface mm	Measuring Height mm	Throat Depth mm	Post Diameter mm	Gaging Bracket
L-1	150 x 100	100	65	25	Plain
L-2	150 x 100	100	65	25	Fine Adj.
L-3	250 x 150	150	150	25	Plain
L-4	250 x 150	150	170	25	Double Shaft
L-5	250 x 150	150	95	25	Fine Adj.
L-6	300 x 200	200	150	28	Plain
L-7	300 x 200	200	220	28	Double Shaft
L-8	300 x 200	200	125	28	Fine Adj.
L-9	300 x 300	250	150	28	Plain
L-10	300 x 300	250	220	28	Double Shaft
L-11	300 x 300	250	125	28	Fine Adj.

### Cast Iron Comparator Stand



Model No.	Reference Surface mm	Measuring Height mm	Throat Depth mm	Post Diameter mm	Gaging Bracket
L-12	60	100	65	25	Plain
L-13	60 Serrated	100	65	25	Fine Adj.
L-14	100 x 125 Serrated	150	95	25	Plain
L-15	100 x 125 Serrated	150	150	25	Double Shaft
L-16	100 x 125 Serrated	150	95	25	Fine Adj.
L-17	225 x 150	200	150	28	Plain
L-18	225 x 150	200	125	28	Fine Adj.
L-19	300 x 300	250	150	28	Plain
L-20	300 x 300	250	220	28	Double Shaft
L-21	300 x 300	250	125	28	Fine Adj.

### Granite Block Master (Square)



Size (mm)	Accuracy (um)
300 x 300 x 50	5
400 x 400 x 63	6
630 x 630 x 80	8

### Granite Square (Triangular)



Size (mm)	Accuracy (um)
300 x 200 x 63	5
400 x 250 x 63	6
500 x 300 x 80	6
600 x 400 x 100	8
1000 x 600 x 100	10

### Cast Iron Right Angle (IS 210:1993)



Size (mm)	Accuracy (um)
200 x 150 x 100	10
300x 200 x 100	15
500 x 300 x 100	18
600 x 350 x 110	20
1000 x 500 x 125	30

## Box Angle Plates



Size in mm	Accuracy in microns		
	Flatness of working faces	Squareness of working faces	Parallelism of opposite working faces
175 x 100 x 125	5	13	15
250 x 150 x 175	8	15	18
350 x 200 x 250	8	18	20
450 x 300 x 350	10	18	20
600 x 400 x 450	10	20	23
750 x 400 x 600	14	25	30

## Cast Iron Cubes



Size in mm	Accuracy in microns		
	Flatness of working faces	Squareness of working faces	Parallelism of opposite working faces
100 x 100 x 100	5	10	12
150 x 150 x 150	5	13	15
200 x 200 x 200	8	15	18
250 x 250 x 250	8	15	18
300 x 300 x 300	10	18	20
500 x 500 x 500	14	25	30

## Slotted Angle Plate



Size in mm	Accuracy in microns			Squareness of end faces with respect to exterior faces as measured over dimension L
	Flatness of working faces	Squareness of working faces over dimension H	Parallelism of opposite faces & edges over their total length	
150 x 100 x 125	5	10	13	13
150 x 150 x 150	5	10	13	13
175 x 100 x 125	5	13	15	15
200 x 150 x 125	8	15	18	18
250 x 150 x 175	8	15	18	18
300 x 200 x 225	8	18	20	20
300 x 300 x 300	8	18	20	20
350 x 200 x 250	8	18	20	20
450 x 300 x 350	10	18	20	20
400x 400 x 400	10	18	20	20
600 x 400 x 450	10	20	23	23
700 X 420 X 700	50	140	140	140
900 x 600 x 700	50	140	140	140
1000 x 700 x 500	50	140	140	140

## Magnetic V Blocks



Cat No.	Size	Range (mm)	Pull
UL-10101 Soft	40L X 40W X 50H [2"]	Ø 3 - Ø 25	25 Kg
UL-10101 Hard	40L X 40W X 50H [2"]	Ø 3 - Ø 25	25 Kg
UL-10102 Soft	75L X 56W X 75H [3"]	Ø 5 - Ø 40	75 Kg
UL-10102 Hard	75L X 56W X 75H [3"]	Ø 5 - Ø 40	75 Kg
UL-10103 Soft	100L X 70W X 95H [4"]	Ø 5 - Ø 65	100 Kg
UL-10103 Hard	100L X 70W X 95H [4"]	Ø 5 - Ø 65	125 Kg
UL-10104 Soft	150L X 75W X 100H [6"]	Ø 5 - Ø 70	125 Kg
UL-10104 Hard	150L X 75W X 100H [6"]	Ø 5 - Ø 70	150 Kg
UL-10105 Soft	200L X 125W X 150H [8"]	Ø 10 - Ø 140	175 Kg
UL-10105 Hard	200L X 125W X 150H [8"]	Ø 10 - Ø 140	175 Kg

- Used for Grinding, Light Milling, Drilling & Inspection of Round & Square Jobs.
- Accuracy for Flatness, Squareness and Parallelism within 0.005mm upto 150mm L & 0.010mm for 200mm L of "V" block
- The Bigger V angle & bottom holding surface are equipped with hardened strips for wear resistance.
- Uniform and strong magnetic pull to all three magnetic surfaces Top, Bottom & V face.
- Hardness of V face is 60±2 Rc.
- Easy ON- OFF facility.
- 1200 "V" angle also available.

## V BLOCK WITH CLAMP



Cat No.	Size	Range (mm)
UL-10501	50 L X 40 W X 40 H	Ø 5 - Ø 40
UL-10502	50 L X 50 W X 50 H	Ø 5 - Ø 50
UL-10503	63 L X 50 W X 50 H	Ø 5 - Ø 50
UL-10504	63 L X 80 W X 80 H	Ø 7 - Ø 80
UL-10505	63 L X 100 W X 100 H	Ø 8 - Ø 100
UL-10506	70 L X 140 W X 140 H	Ø 9 - Ø 140
UL-10507	80 L X 63 W X 63 H	Ø 7 - Ø 63
UL-10508	100 L X 80 W X 80 H	Ø 7 - Ø 80
UL-10509	150 L X 200 W X 200 H	Ø 10 - Ø 200
UL-10510	200 L X 200 W X 200 H	Ø 10 - Ø 200

- Used for Grinding, Light Milling, Drilling & Inspection of Round & Square Jobs.
- Accuracy as per IS - 2949 - 1974.
- Hardness 60±2 Rc.
- Supplied in perfect matched pair.
- End face grinding, square with sides can be possible.
- Two 900 "V" angle for different capacities.
- Special sizes can also be manufactured.
- Supplied with Clamp.
- Also available to suite your specification.

## BEVELLED EDGE TRY SQUARE

IS : 2103 - 1980



Cat No.	Size
UL-60401	50 L x 35 W x 4 T [ 2" ]
UL-60402	75 L x 50 W x 4.5 T [ 3" ]
UL-60403	100 L x 70 W x 5 T [ 4" ]
UL-60404	150 L x 100 W x 6 T [ 6" ]

- Used for checking Square ness & straightness.
- Made from single piece high quality tool steel.
- Inner & outer edges of blade are bevelled at 60° angle.
- Beveled edge provides an excellent visual line

Cat No.	Size
UL-60405	200 L x 140 W x 7 T [ 8" ]
UL-60406	250 L x 165 W x 8 T [ 10" ]
UL-60407	300 L x 200 W x 8 T [ 12" ]
UL-60408	400 L x 250 W x 10 T [ 16" ]

- contact with the workpiece.
- Hardness 60 ± 2 Rc.
- A groove on the inner corner of the stock, aids in the clearance of burr or dirt.
- Packed in individual wooden box.

### Precision Grinding Vice



Cat No.	Size	Jaw Opening (mm)
UL -31001	150L x 48W x 60H	0 - 75
UL -31002	180L x 63W x 70H	0 - 90
UL -31003	200L x 73W x 80H	0 - 100
UL -31004	235L x 96W x 96H	0 - 130

- Used for holding the jobs, spark erosion operation, right angle grinding & Light machining.
- Made from high quality alloy steel.
- Accuracy for Square ness, Flatness & Parallelism within  $\pm 0.005\text{mm}$ .
- Jaw pressure on work piece is forward & downward for repeatable positioning & maximum holding power.

- All sides can be used as reference.
- Hardness -  $60 \pm 2 \text{ Rc}$  & Tempered.
- "V" on moveable jaw for better gripping of round jobs.
- Made from high quality alloy steel.

### SINE VICE



Cat No.	Size	C.D (mm)	Opening (mm)
UL-31201	190L x 65W x 85H	100	80
UL-31202	235L x 76W x 100H	150	110
UL-31203	265L x 95W x 105H	150	125
UL-31204	290L x 120W x 120H	200	145
UL-31205	310L x 140W x 145H	200	150

- Used for Precision measurement, setting of angles, Right angle grinding & light machining.
- Made from high quality alloy steel.
- Accuracy for Squareness, Flatness & Parallelism within  $\pm 0.005\text{mm}$ .

- Angular accuracy within  $\pm 5$  seconds.
- Centre distance between rollers is within  $\pm 0.005\text{mm}$
- Hardness -  $60 \pm 3 \text{ Rc}$
- Made from Stainless steel.

### SINE BAR



Cat No.	Size	C.D (in mm)
UL - 31301	130L x 20W x 40H	100
UL - 31302	230L x 30W x 40H	200
UL - 31303	345L x 40W x 50H	300

- Used for Precision measurement, setting of angles.
- Made from high quality alloy steel.
- Accuracy for Squareness, Flatness & Parallelism is within  $0.005\text{mm}$ . upto 200mm &  $0.010 \text{ mm}$  upto 350mm
- Centre distance between rollers is within  $\pm 0.003\text{mm}$

- Hardness -  $60 \pm 2 \text{ Rc}$  & Tempered
- Top surface is provided with magnet
- Accuracy as per IS Standards IS 5359-1987
- Magnetic Sine Bar is also available

### WELDING GAUGES



### INDICATOR DIAL STAND

