

LUTHRA ENGINEERING WORKS

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(HARYANA) INDIA

(CALIBRATION DIVISION)

CALIBRATION CERTIFICATE

Certificate No. 68754 : Dated : 6th March .2019

Next Calibration Due : 6th March .2020

Name and Address of Party : Dealer.

Name of Instrument : Bench Centre 500 x 160 mm

Identification : Marked 83754

Equipment Used for Calibration Traceable to NPL, New Delhi. : Electronic Level Wyler - Swiss Make
: No.17090563/D 1.02/C -135
: Dial Indicator – Peacock Japan
: No.17090563/D 1.02/C-136

Standard : IS:5980-1978 Grade-1

Accuracy	Permissible	Observed
1.Flatness of Guide-ways	10.00 Microns	07.90 Microns
2.Parallelism of the Axis of centres with respect to Guideways	0.010/300 mm	0.008/300 mm
3.Coaxiality of Centres	0.015 mm	0.012 mm

Results : **The errors in Flatness, parallelism & coaxiality of Bench Centre are within the Permissible tolerance specified for Grade-1 in IS : 5980-1978.**

Calibrated By :



MANAGER (Q.A).

SURFACE PLATE CALIBRATION

Report No. : **68754**

Date : 3/6/2019

Client : **Dealer**

Client Ref. :

Date : 3/6/2019

Work Order : 68754

Date : 3/6/2019

Surface Plate Id. :83754

Length : 800
(mm)

Description : Bench center 500 x 160 mm

Width : 300
(mm)

Model / Type : BC-5

Ref. Standard : IS:5980-1978

Instrument Used : Electronic Level, Wyler Swiss

Traceability : NPL, New Delhi 17090563/D 1.02/C-135

Method of Evaluation : Mean Regression plane by Least Square fit

Mode of Readings : mm / meter
(ArcSec. or mm/meter)

Method of Calibration : Grid Pattern

Bridge Length : 100
(mm)

Scale : 0.1
(μm / unit)

Temp. during measurement : 20 To 21
(Degree Celsius)

Working Surface Overall

Flatness : 7.9 micrometer

Grade : 1

(Allowable tolerance : 10 μm)

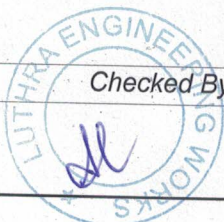
Enclosures:

Readings and Deviation Results - 1 Page

Deviation Surface Plot - 1 Page

Calibrated By

Checked By



LUTHRA ENGINEERING WORKS
 25-26, HSIIDC, INDUSTRIAL ESTATE,
 DOUBLE STOREY, SONIPAT - 131001-20.

SURFACE PLATE CALIBRATION

Report No. : 68754

Date : 3/6/2019

No. of Rows : 03
 No. of Columns : 08

Measurement Readings Along Rows (Values are in Divisions)

	Col 01	Col 02	Col 03	Col 04	Col 05	Col 06	Col 07	Col 08
ROW01	0.0	-25.0	26.0	15.0	24.0	-25.0	18.0	24.0
ROW02	0.0	-20.0	15.0	24.0	-26.0	30.0	15.0	26.0
ROW03	0.0	-25.0	18.0	24.0	-22.0	26.0	-24.0	15.0

Measurement Readings Across Rows (Values are in Divisions)

	Col 01	Col 02	Col 03	Col 04	Col 05	Col 06	Col 07	Col 08
ROW01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROW02	-25.0	24.0	-26.0	30.0	15.0	24.0	-29.0	30.0
ROW03	15.0	24.0	28.0	24.0	-26.0	30.0	-25.0	26.0

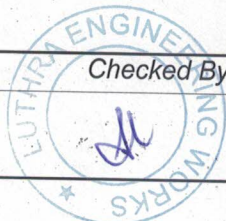
Deviation From Regression Plane (Values are in μm)

	Col 01	Col 02	Col 03	Col 04	Col 05	Col 06	Col 07	Col 08
ROW01	1.5	-1.6	0.0	0.5	2.1	-1.1	-0.2	1.2
ROW02	-0.6	-1.2	-2.5	1.1	-0.4	-0.5	-2.4	2.0
ROW03	1.0	0.5	-0.3	3.2	-0.6	1.6	-4.7	1.6

Flatness : 7.9 micrometer

Maximum Deviation : 3.2 μm
 Minimum Deviation : -4.7 μm

Calibrated By	Checked By
	

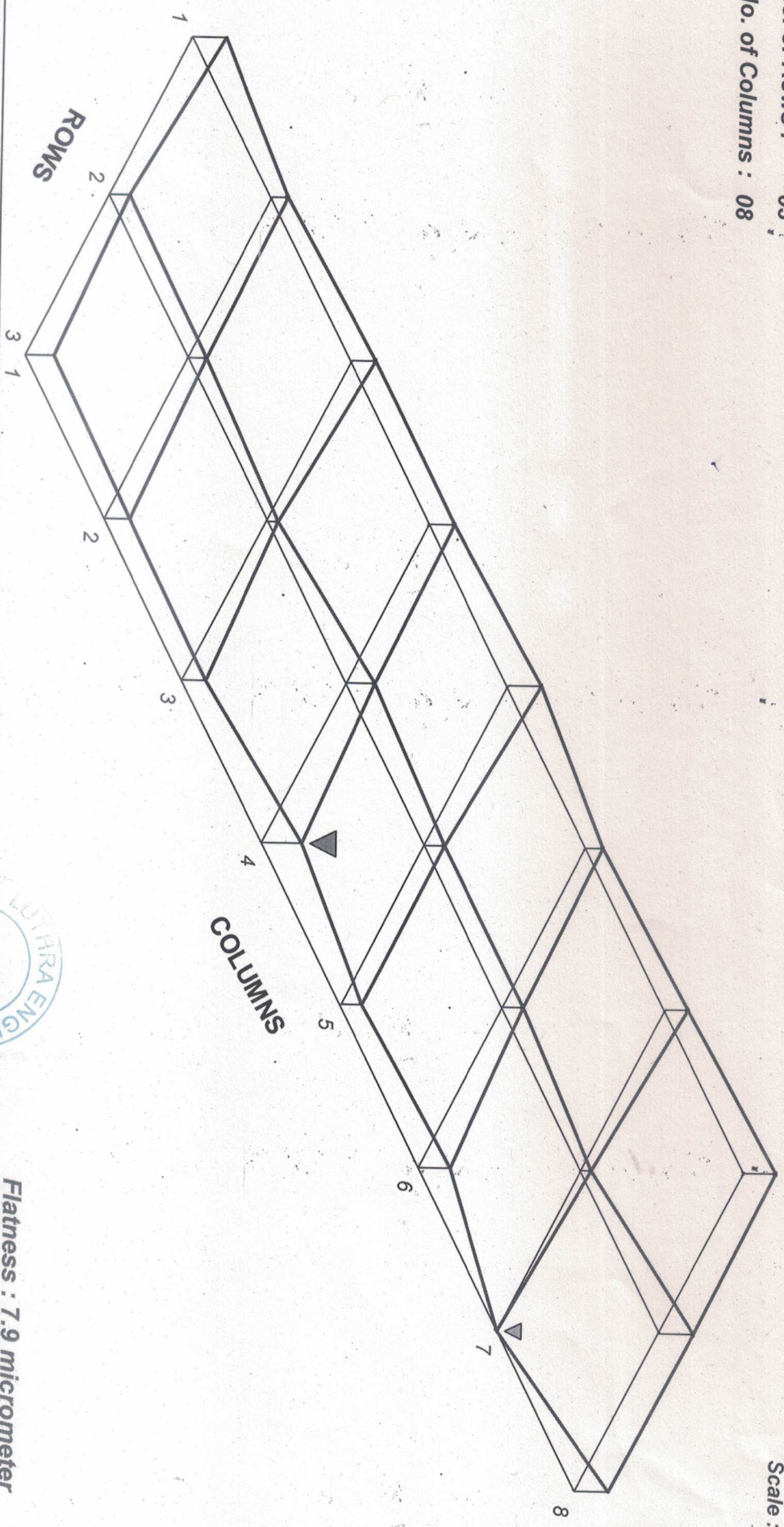


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25-26, HSIIDC, INDUSTRIAL ESTATE,
DOUBLE STOREY, SONIPAT - 131001-20.

SURFACE PLATE CALIBRATION
Report No. : 68754
Date : 3/6/2019

No. of Rows : 03
No. of Columns : 08

Scale : N T S



Flatness : 7.9 micrometer

Maximum Deviation: 3.2 μ m
Minimum Deviation: -4.7 μ m

Calibrated By

Checked By