



NABL : C-0066

FRI

Prosperity through research

Fie Research Institute

22/44, Ganganagar P. O., ICHALKARANJI - 416 111

(Dist.Kolhapur) Maharashtra State, INDIA

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Accreditation No. NABL C0066

CALIBRATION CERTIFICATE OF FORCE MEASURING DEVICE

Date of calibration : 19/03/2015

Certificate No. : FRI/03/15/7525

Next calibration due on : 19/05/2017

Page No. : 1/2

Calibrated for : M/s. Krutam Techno Solutions Pvt. Ltd.
64/B, G.I.D.C, Makarpura,
VADODARA - 390 010

Customer Reference No. : DC No. 334/14-15 Dated 11/03/2015

Identification : Load cell make : ADI Artech
Model : NS/1008/LC/6000
Sr. No. : 674061
Capacity : 7.5 Ton (Calibrated upto 50 kN)
Readout : ADI
Model : LI-5000
Sr. No. : 8578
Resolution : 1 Count

Date of receipt : 13/03/2015

Mode of Calibration : Compression

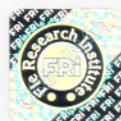
Machine used for calibration : Dead Weight Force Calibration Machine (FIE-DWP-003)

Traceability : NPL,Cert.No.14070367/D5.05/C-253 valid up to 22/07/16

Read out setting : Nil

Temperature : 24°C

Note : 1) Compression test were made out by using self-aligning Compression pads provided with the force - measuring device.
2) Readout with load cell warmed up for 30 min. before calibration.
3) Calibration is done as per IS:4169-1988.
4) The reported uncertainty is at coverage factor $k=2$ which corresponds to a Coverage probability of approximately 95% for normal distribution, considering the relative error of different components such as zero, Resolution, Repeatability, Interpolation and combining the uncertainty of applied force.



U. V. Patil
(Sc. Assistant)

R. V. Tambad
(Sr. Engineer)

Dr. J. C. Padte
(Director)



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Identification : Load cell make : ADI Artech
Sr. No. : 674061Calibration method : The Load cell is calibrated in Compression as per FRI Calibration procedure
No. FRICAL/CAL/02 based on IS:4169-1988

Results : The calibration results are valid for specific force steps/ interpolation

Applied force (kN)	Deflection (Counts)			
	Series 1 at 0°	Series 2 at 180°	Series 3 at 360°	Average
5	5000	5000	5000	5000
10	10003	10003	10002	10003
15	15004	15004	15003	15004
20	20005	20005	20004	20005
25	24999	24999	25000	24999
30	29999	29999	29998	29999
35	34999	34998	34997	34998
40	39998	39997	39995	39997
45	44994	44992	44992	44993
50	49991	49990	49988	49990

Polynomial Used : $Y = -2.8444444443 + 1000.821963222 \times X - 0.0320979021 \times X^2 + 0.0002574463 \times X^3$

Where X = Force in kN, Y = Average reading in Counts

Class	Mode	From	To	Uncertainty of measurement
Class 0	Compression	50 kN	5 kN	$\pm 0.060\%$

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