



NABL

(Accreditation No.C-0199)

Testing Machines Department

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Certificate No: UT-UC/2016-2017/E-244

Sheet: 1/1

CALIBRATION CERTIFICATE

DATE OF VERIFICATION : 27.09.2016 Next Cal. Suggested. as per IS/ISO Std on : 27.09.2017
Equipment Universal Testing Machine
Machine Model : UTE 40
Sr. No. 5/2009-4128
Make : FIE
Room Temp.(°C) 28 °C
Range (kN) : 0 - 400 Calibration in : Compression

STEEL AUTHORITY OF INDIA LTD.
KUMARBAG, BETTIAH,
BIHAR - 845450

Details of force Measuring instruments used			Sr. No. M5514 Capacity 100kN Calibration valid up to 29.06.2018					Certificate No. FRI/04/16/8556			
Details of force Measuring instruments used			Sr. No. 94058 Capacity 400kN Calibration valid up to 08.01.2017					Certificate No. FRI/11/14/7273			
Force(F) kN	Std. at(°C) 24	Std. at R.Temp	Observed(Fi)			Mean	Diff	%Error	%Rptblty. error(b)	Load Res. kN	Class
10.000	59.10	59.16	1	2	3						
20.000	118.10	118.23	59.0	59.5	59.5	59.33	0.17	0.29	0.84	0.020	1
40.000	236.30	236.56	119.0	119.0	119.5	119.17	0.94	0.79	0.42	0.020	1
60.000	353.50	353.88	237.5	237.5	237.0	237.33	0.78	0.33	0.21	0.020	1
80.000	472.10	472.61	355.0	354.0	354.0	354.33	0.45	0.13	0.28	0.020	1
80.000	213.90	214.13	475.0	475.5	475.0	475.17	2.56	0.54	0.11	0.020	1
100.000	269.50	269.79	215.0	214.5	214.5	214.67	0.54	0.25	0.23	0.020	1
120.000	322.30	322.65	270.0	270.0	270.0	270.33	0.54	0.20	0.37	0.040	1
150.000	401.90	402.33	323.0	324.0	324.0	323.67	1.02	0.32	0.31	0.040	1
200.000	535.70	536.28	404.0	404.5	405.0	404.50	2.17	0.54	0.25	0.040	1
250.000	669.30	670.02	538.0	538.0	539.0	538.33	2.05	0.38	0.19	0.100	1
300.000	802.70	803.57	673.0	673.0	674.0	673.33	3.31	0.49	0.15	0.100	1
400.000	1054.30	1055.44	806.0	806.0	805.0	805.67	2.10	0.26	0.12	0.100	1
			1058.0	1059.0	1059.0	1058.67	3.23	0.31	0.09	0.100	1
Obs. Readings on Removal of Force(fo):			0.040	0.040	0.020				Max. Rel. Res. : 0.200		
Relative zero error%(fo)			0.400	0.400	0.200				Max.Uncertainty (%): 0.561		

This machine has been verified and the results have been found within permissible limits as per IS-1828 (Part 1) - 2005 ISO 7500 - 1999

Uncertainty of measurement is at 95% confidence level, k = 2 for $v_{eff} > 30$ or as per NABL-141

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M/S. BLUE STAR LIMITED, New Delhi.

BLUE STAR LIMITED

Authorised Signatory

Testing Machines Department

Accredited by NABL (Ministry of Science & Technology) for calibration of Testing Machines

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