DAVID L. ELLIS COMPANY, INC.

NVLAP®
Calibration
200127-0

310 Old High Street,   P.O. Box 592,   Acton, MA 01720
Fax: 978-897-0844 Voice: 978-897-1795 sales@hardness-testblocks.com   www.hardness-testblocks.com

Certificate of Calibration and Conformance
for Brinell Test Block

Certificate Number
0245·

Hardness HBW	101		Operator	CAE
Serial Number	0245·		Method ASTM	E10-18
Force KGF	500		Date Calibration	02/05/19
Force in kN	4.9		Tol. +/- HBW	3
Ball diameter mm	10		Code	P
Data	mm	HBW	Uncertainty	HBW
Reading Ref 1	2.504	99.9	Unc Test Block	1.5
Reading 2	2.481	102	Unc mm	0.0038
Reading 3	2.474	102		
Reading 4	2.482	102		
Reading 5	2.489	101		
Average	2.486	101	Temp deg C	23
High	2.504	99.9	Humidity %	35
Low	2.474	102	Notes	1.21
Repeatabilty	0.030			
STD DEV	0.011		Uncertainty of testblock. Use this	
This block calibrated in Maynard, MA			value during indirect verification. (K=2)	

101 HBW	10 500	2.486 mm

The above calibration was verified with the following equipment. which is traceable to NIST. NPL or PTB.

United Load Cell   Stage Micrometer #0024 in 0-7 mm
Serial No: F30686   N.I.S.T. Test No. 821/264390-00

United STM-HB-2000A, TB II   Thomson Precision Ball, 1,2.5,5,10mm
Serial Number 0105510

This standardized was calibrated in accordance with ASTM E10 annex A4 using indenter/loads combinations traceable to Ellis hardness levels through laboratory standardizing machine. The standardizing machines are directly verified according to ASTM E10 annex A2 using devices that are traceable to NIST either directly or through a NVLAP approved laboratory.

Expanded uncertainty uses coverage factor K=2, providing a confidence level of approximately 95%.

This test report is not to be used to claim product certification, approval or endorsement by the David L. Ellis Company Inc., NIST, NVLAP or any government agency.

This indent was calibrated according to ASTM E10 annex A4 standard, ANSI (NCSL) Z540-1, (ISO) 10012, and ISO/IEC 17025 by David L Ellis Co., Inc. , NVLAP 200127-0 Calibration Laboratories.

Cynthia A. Ellis
Representative

This certificate may not be reproduced except in full