

DAVID L. ELLIS COMPANY, INC.

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Certificate of Calibration and Conformance for Rockwell Test Block

FOR: THE L.S. STARRETT COMPANY

121 CRESCENT STREET, ATHOL, MA USA 01331

63.52	HRC
Serial Number	3623301
Date Cal	11/16/11

Temp Deg C 21
HUMID % 42
Note 1- Uncertainty of secondary
standardizing machine that
calibrated this testblock.

Note 2- Uncertainty of this
calibrated secondary testblock.
Use this value for On-Site Unc.
during indirect verification.

K=2

NIST Test Speed

Dwell Minor Load / 3 sec

Dwell Major Load / 5 sec

Dwell Recovery / 4 sec

Force KGF	150	Block Certificate No.
Force N	1471.05	3623301
Indenter type-	Diamond	
Method	ASTM E18-08b	Operator LAL
Unc tester (1)	0.31 HRC	
Unc Block (2)	0.32 HRC	
Reading 1	63.47 HRC	
Reading 2	63.45 HRC	
Reading 3	63.59 HRC	
Reading 4	63.51 HRC	
Reading 5	63.47 HRC	
Reading 6	63.62 HRC	
Average	63.52	
Std. Dev.	0.07	
Min	63.45	
Max	63.62	
Repeatability	0.17	
Tolerance. +/-	0.5 HRC	

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

United Tru-Blue II Standardizing Machines
Serial Number: 281620, 211220

Star Industrial Tools UKAS
Star #ST11864

The standardized test blocks are calibrated in accordance with ASTM E18 Annex A4 using NIST Rockwell standard reference materials (SRM) 2810, 2811 and 2812. All other Rockwell scales are traceable to Ellis hardness levels through laboratory standardizing machines. The standardizing machines are directly verified according to ASTM E18 using devices that are traceable to NIST either directly or through an A2LA or 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 endorsement by the David L. Ellis Company Inc., A2LA, NVLAP or any government agency.

This block is calibrated according to A.S.T.M. E-18 standards, ANSI (NCSL) Z540-1, (ISO) 10012, ISO/IEC Guide 17025 and MIL-STD 45662A by David L Ellis Co., Inc. A2LA certificate number 1310.01 Calibration and NVLAP Lab Code: 200127-0 CALIBRATION LABORATORIES

Linda Mansfield

Representative

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Accredited 1310.01
Calibration



Lab Code:200127-0
Calibration Laboratories