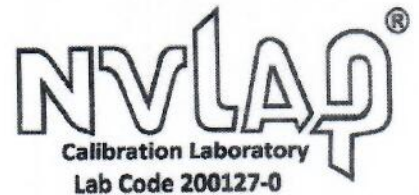


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Certificate of Calibration Rockwell Test Block

Certificate number

00A0282

50.79	HRBW	TEMP deg C	21 deg
Serial Number	00A0282	Humidity	40%
Operator	LKM	Tolerance+/-	2.5 HRBW
Date calibration	11/9/21	Code	DLE
Block Unc	0.36	Method	ASTM E18-20
Use this block uncertainty for indirect verification.		Test 1	50.76 HRBW
		Test 2	50.79 HRBW
		Test 3	50.98 HRBW
		Test 4	50.55 HRBW
		Test 5	50.76 HRBW
		Test 6	50.88 HRBW
		Average	50.79
K=2		STDEV	0.14
Force Kg	100	Minimum	50.55
Force N	980.7	Maximum	50.98
Type of penetrator	1/16" ball	Range	0.43
Indenter Serial No	8310	Test speed NIST	
Tester No.	2131861	Minor force / 3 sec	
		Major force / 5 sec	
		Recovery force / 4 sec	

Expanded uncertainty uses coverage factor K=2, providing a confidence level of approximately 95%. The results shown pertain only to the test block serial number that appears in the data above.

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: 2131861, 211220, 2111744, 271564, 2111704

Gilmore Diamond Tools

Lab Code 200538-0

This calibration was performed in accordance with ASTM E18 annex A4 using NIST Rockwell Standard Reference Materials 2810,2811,2812. All other Rockwell scales are traceable to Ellis hardness levels through laboratory standardizing machines. The standardizing machines are directly verified according to ASTM E18 Annex 2 using devices that are traceable to NIST either directly or through a NVLAP approved laboratory.

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

This block is calibrated in accordance with ASTM E18 Annex A4, ANSI (NCSL) Z540-3, ISO 10012, ISO/IEC 17025 and MIL-STD 45662A by David L Ellis Co., Inc., Calibration Laboratory, 235 Main St. Maynard, MA. 01754 NVLAP Lab Code 200127-0.

Representative

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