National Voluntary Laboratory Accreditation Program

CALIBRATION LABORATORIES **NVLAP LAB CODE 200405-0**

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Dwight Calibration & Instrument LLC	**Fields of Calibration**
10 Stuyvesant Avenue Lyndhurst, NJ 07071-0909 Mrs. Carolyn Howe Phone: 201-438-3334 Fax: 201-438-0594 E-mail: chowe@dwightcalibration.com URL: http://www.dwightcalibration.com	Dimensional Mechanical This laboratory is compliant to ANSI/NCSL Z540-1-1994; Part 1. (NVLAP Code: 20/A01)

CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) Notes 1,2

Measured Parameter or Device Calibrated	**Range**	**Expanded Uncertainty** Note 3, 5, 7	**Remarks**
DIMENSIONAL			
GAGE BLOCKS (20/D03)			
Steel	0 in to 4 in	3.5 µin + 2*L* µin	Master gage blocks and gage block comparator
LENGTH & DIAMETER; STEP GAGES (20/D05)			
Field calibrations available Note 4 Micrometers	> 0 in to 24 in	40 µin + 2*L* µin	
Dial Indicators With Fixture	> 0 in to 2 in	30 µin 82 µin	
Optical Comparators	> 0 in to 12 in	150 µin	
Calipers	> 0 in to 36 in	85 µin + 2*L* µin	
Height Gages	> 0 in to 36 in	85 µin + 3*L* µin	
Single Axis Length	> 0 in to 36 in	20 µin + 2*L* µin	Comparison to gage blocks
MEASURING WIRES (20/D07)			
Thread Measuring Wires	Up to 80 pitch	15 µin	Lightwave Micrometer

2022-09-30 through 2023-09-30
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Measured Parameter or Device Calibrated	Range	Expanded Uncertainty Note 3, 5, 7	Remarks
SPHERICAL DIAMETER; PLUG/RING GAGES (20/D11)			
Plain Rings	> 0 in to 8 in	20 µin + 5*L* µin	
Plain Plugs	> 0 in to 2 in > 2 in to 4 in	15 µin 25 µin	Lightwave Supermic.
Class ZZ	> 0 in to 1 in	45 µin	
Spheres	> 0 in to 2 in	24 µin	Lightwave Supermic.
SURFACE TEXTURE (20/D12)			
Granite Surface Plates Field calibrations available Note 4			
Repeat Readings	> 0 in to 0.002 in	31 µin	Repeat-a-Meter
Flatness	> 0.5 in to 12 ft > 0.5 in to 12 ft	0.5 in/ft 50 µin/ft	 Autocollimator
SURVEYING RODS AND TAPES (20/D13)			
Rulers	> 0 in to 48 in	300 µin + 2*L* µin	
THREADED PLUG & RING GAGES (20/D14)			
Threaded Plug Gages – Pitch Diameter	> 0 in to 4 in	100 µin	
Threaded Ring Gages – Functional Diameter	> 0 in to 4 in	100 µin	
COORDINATE MEASURING MACHINES (20/D16)			
Repeatability		25 µin	
Volumetric		220 µin	
Linearity	> 0 in to 19 in > 19 in to 26 in > 26 in to 37 in > 37 in to 74 in	20 µin + 13*L* µin 260 µin + 6.5*L* µin 420 µin + 3*L* µin 520 µin + 19*L* µin	

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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) [Notes 1,2]

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty [Note 3, 5, 7]	Remarks
MECHANICAL			
TORQUE (20/M15)			
Torque Wrenches[8]	> 0 in·ozf to 50 in·ozf	1.5 %	Compared to transducers
With loader	> 0 in·lbf to 30 in·lbf	1.5 %	
	> 0 in·lbf to 600 in·lbf	1.5 %	
	> 0 ft·lbf to 250 ft·lbf	1.5 %	
Without loader	> 0 in·ozf to 50 in·ozf	2.0 %	Compared to transducers
	> 0 in·lbf to 30 in·lbf	2.0 %	
	> 0 in·lbf to 600 in·lbf	2.0 %	
	> 0 ft·lbf to 250 ft·lbf	2.0 %	
END			

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Notes

Note 1: A Calibration and Measurement Capability (CMC) is a description of the best result of a calibration or measurement (result with the smallest uncertainty of measurement) that is available to the laboratory's customers under normal conditions, when performing more or less routine calibrations of nearly ideal measurement standards or instruments. The CMC is described in the laboratory's scope of accreditation by: the measurement parameter/device being calibrated, the measurement range, the uncertainty associated with that range (see note 3), and remarks on additional parameters, if applicable.

Note 2: Calibration and Measurement Capabilities are traceable to the national measurement standards of the U.S. or to the national measurement standards of other countries and are thus traceable to the internationally accepted representation of the appropriate SI (Système International) unit.

Note 3: The uncertainty associated with a measurement in a CMC is an expanded uncertainty with a level of confidence of approximately 95 %, typically using a coverage factor of $k = 2$. However, laboratories may report a coverage factor different than $k = 2$ to achieve the 95 % level of confidence. Units for the measurand and its uncertainty are to match. Exceptions to this occur when marketplace practice employs mixed units, such as when the artifact to be measured is labeled in non-SI units and the uncertainty is given in SI units (Example: 5 lb weight with uncertainty given in mg).

Note 3a: The uncertainty of a specific calibration by the laboratory may be greater than the uncertainty in the CMC due to the condition and behavior of the customer's device and specific circumstances of the calibration. The uncertainties quoted do not include possible effects on the calibrated device of transportation, long term stability, or intended use.

Note 3b: As the CMC represents the best measurement results achievable under normal conditions, the accredited calibration laboratory shall not report smaller uncertainty of measurement than that given in a CMC for calibrations or measurements covered by that CMC.

Note 3c: As described in Note 1, CMCs cover calibrations and measurements that are available to the laboratory's customers under *normal conditions.* However, the laboratory may have the capability to offer special tests, employing special conditions, which yield calibration or measurement results with lower uncertainties. Such special tests are not covered by the CMCs and are outside the laboratory's scope of accreditation. In this case, NVLAP requirements for the labeling, on calibration reports, of results outside the laboratory's scope of accreditation apply. These requirements are set out in Annex A.5. of NIST Handbook 150, Procedures and General Requirements.

Note 4: Uncertainties associated with field service calibration may be greater as they incorporate on-site environmental contributions, transportation effects, or other factors that affect the measurements. (This note applies only if marked in the body of the scope.)

Note 5: Values listed with percent (%) are percent of reading or generated value unless otherwise noted.

Note 6: NVLAP accreditation is the formal recognition of specific calibration capabilities. Neither NVLAP nor NIST guarantee the accuracy of individual calibrations made by accredited laboratories.

Note 7: Where L is the numerical value of the measurand in the same units shown in the range.

Note 8: Add 0.5 % for torque tools other than a torque wrench, such as torque drivers, screwdrivers and t-handles.

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