



CERTIFICATE OF ACCREDITATION

This is to attest that

DMTE CALIBRATION LLC

5916 FRANCES AVENUE NORTHEAST
TACOMA, WASHINGTON 98422, U.S.A.

Calibration Laboratory CL-129

has met the requirements of AC204, *IAS Accreditation Criteria for Calibration Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date March 31, 2021

Expiration Date June 1, 2024



A handwritten signature in black ink, reading 'Raj Nathan'.

President

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | www.iasonline.org

DMTE CALIBRATION LLC

www.dmtecalibration.com

Contact Name Glenn Miller

Contact Phone + 1-253-678-7676

Accredited to ISO/IEC 17025:2017

Effective Date March 31, 2021

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION PROCEDURE AND/OR STANDARD EQUIPMENT USED
Dimensional			
Calipers, Dial Indicators, LVDTs, Micrometers	Up to 1 in	47 µin	Gauge Blocks, ASME B89.1.13
	Up to 24 in	144 µin	Gauge Blocks, ASME B89.1.10M
Extensometer/ Deflectometer	Up to 1 in	6 µin	Heidenhain MT 60K, ASTM E83
	1 in to 2 in	8 µin	Renishaw XL-80, ASTM E83
	2 in to 10 in	40 µin	
Gage Length	Up to 12 in	0.0011 in	Digital Caliper, ASTM E83
Crosshead Distance	Up to 80 in	0.001 in + 0.004 %	Heidenhain MT60K, Renishaw XL-80, ASTM E2309
Angle Rotation	Up to 180°	0.008°	Digital Angle Encoder, ASTM E2309
Mechanical			
Compression - Load Cells, Dynamometers	0.007 lbf to 55 lbf	0.01 %	Class F Weights, ASTM E4
	55 lbf to 235,000 lbf	0.1 %	Load Cell/Digital Readout, ASTM E4
Tension – Load Cells, Dynamometers	0.007 lbf to 55 lbf	0.01 %	Class F Weights, ASTM E4
	55 lbf to 235,000 lbf	0.1 %	Load Cell/Digital Readout, ASTM E4
Crosshead Speed	0.01 mm/min to 60000 mm/min	0.02%	Renishaw XL-80, ASTM E2658
Torque Cells, Wrenches, Screw Drivers, Multipliers	0.02 lbf·ft to 1500 lbf·ft	0.06 %	Torque Arm, Digital Protractor, Class F Weights, ASTM E2624
	5 lbf·ft to 440 lbf·ft	0.2 %	Torque Transducer, ASTM E2624
	411 lbf·ft to 12,500 lbf·ft	0.2 %	Torque Wrenches, ASME B107.300

* If information in this CMC is presented in non-SI units, the conversion factors stated in NIST Special Publication 811 "Guide for the Use of the International System of Units (SI)" apply.

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION PROCEDURE AND/OR STANDARD EQUIPMENT USED				
Scales	Up to 4 kg	0.52 mg	Class 1 Weights, NIST HB44				
	Up to 60 kg	0.4 g	Class F Weights, NIST HB44				
Hardness – Rockwell Indirect	(61 to 84) HRA (24 to 64) HRC (48 to 84) HRBW (75 to 96) HREW (65 to 98) HRFW (94 to 100) HRHW (72 to 92) HR15N (44 to 80) HR30N (26 to 70) HR45N (74 to 92) HR15TW (45 to 82) HR30TW (17 to 72) HR45TW	0.32 HRA 0.45 HRC 1.2 HRBW 0.33 HREW 0.64 HRFW 0.48HRHW 0.49 HR15N 0.62 HR30N 0.61 HR45N 0.39 HR15TW 0.58 HR30TW 0.7 HR45TW	Hardness Blocks, ASTM E18 and E110				
Hardness – Brinell Indirect HBW 10/500 HBW 10/3000	(50 to 166) HBW (101 to 690) HBW	2.8 HBW	Hardness Blocks, ASTM E10 and E110				
		8.8 HBW					
Brinell Scope (Type B)	Up to 10 mm/0.01 mm	0.019 mm	Stage Micrometer, ASTM E10 and E110				
Hardness – Knoop & Vickers Indirect			Hardness Blocks, ASTM E92 & E384				
				HV 0.1	100 HV	6.1 HV	
				HV 0.1	600 HV	25 HV	
				HV 0.3	100 HV	3.6 HV	
				HV 0.3	600 HV	18 HV	
				HV 0.5	100 HV	3.5 HV	
				HV 0.5	600 HV	13 HV	
				HK 0.1	400 HK	19 HK	
				HK 0.1	700 HK	24 HK	
				HK 0.3	400 HK	14 HK	
				HK 0.3	700 HK	17 HK	
				HK 0.5	400 HK	13 HK	
				HK 0.5	700 HK	15 HK	
				HK 1.0	400 HK	14 HK	
				HK1.0	700 HK	19 HK	
				Thermal			
				Ovens, Furnaces and Heated Presses	Up to 260 °C	0.6 °C	WI-1006 (Elements of ASTM E145) VWR Temperature Meter

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¹The uncertainty covered by the Calibration and Measurement Capability (CMC) is expressed as the expanded uncertainty having a coverage probability of approximately 95 %. It is the smallest measurement uncertainty that a laboratory can achieve within its scope of accreditation when performing calibrations of a best existing device. The measurement uncertainty reported on a calibration certificate may be greater than that provided in the CMC due to the behavior of the calibration item and other factors that may contribute to the uncertainty of a specific calibration.

²When uncertainty is stated in relative terms (such as percent, a multiplier expressed as a decimal fraction or in scientific notation), it is in relation to instrument reading or instrument output, as appropriate, unless otherwise indicated.