



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

NEL PRETECH CORPORATION
8420 183rd Place
Tinley Park, IL 60487
Dave Nelson Phone: 708 429 4887

MECHANICAL

Valid To: March 31, 2022

Certificate Number: 2140.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following dimensional tests^{1,5}:

I. Dimensional Testing

Parameter/Equipment	Range	CMC ^{2,4,6} (\pm)	Comments
Length ³ (1D) – Measure	Up to 4 in	0.0001 in	Micrometer
	Up to 6 in	0.0014 in	Caliper
Radius ³ – Measure	(1 to 15) mm	0.5 mm	Radius gage
Diameter ³ – Measure	(0.011 to 0.5) in	0.001 in	Pin gages
Volume ³ – (X, Y, Z) Measure	(700 × 270 × 270) mm	(9.7 + 12L) μ m	Zeiss Metrotom 800 CT
	(700 × 1000 × 700) mm	(9.2 + 3.3L) μ m	B&S Global CMM
	(900 × 1500 × 900) mm	(22 + 2.9L) μ m	B&S Xcel CMM
	(700 × 1000 × 500) mm	(15 + 2.2L) μ m	B&S MicroXcel CMM
	(400 × 400 × 300) mm	(3.5 + 1.4L) μ m	Mycrona Altera S/L CMM

Parameter/Equipment	Range	CMC ^{2, 4, 6} (\pm)	Comments
Area ³ – (X, Y) Measure	(300 × 300) mm	(14 + 1.0L) μ m	RAM optical CMM
	(300 × 600) mm	100 μ m	Micro Vu optical CMM
Angle ³ – Measure	(0 to 360) ^o	1.9"/A	B&S Global CMM
		4.5"/A	B&S Xcel CMM
		3"/A	RAM optical CMM
		4.5"/A	Micro Vu optical CMM
		3.1"/A	B&S MicroXcel CMM
		0.7"/A	Mycrona Altera S/L CMM
Fixture Gages ³	(700 × 1000 × 700) mm	(9.2 + 3.3L) μ m	B&S Global CMM
	(900 × 1500 × 900) mm	(22 + 2.9L) μ m	B&S Xcel CMM
	(700 × 1000 × 500) mm	(15 + 2.2L) μ m	B&S MicroXcel CMM
Surface Finish of Parts ³ – Measure	Ra (5 to 200) μ in	(0.4 + 0.06S) μ in	Mahr MarSurf M400
	Rq (5 to 200) μ in	(0.4 + 0.06S) μ in	
	Rz (40 to 1200) μ in	(4.3 + 0.06S) μ in	

¹ This laboratory offers commercial dimensional testing

² Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

³ This test is not equivalent to that of a calibration.

⁴ In the statement of CMC, A is the numerical value of the shortest distance of the leg defining the angle in meters, S is the surface finish in the parameter in question in μ in, and L is the measured length in meters.

⁵ This scope meets A2LA's *P112 Flexible Scope Policy*.

⁶ The type of instrument or material being tested is defined by the parameter. This indicates the laboratory is capable of testing instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.