



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## *Certificate of Accreditation*

*Perry Johnson Laboratory Accreditation, Inc. has assessed the Organization of:*

### ***CMM Calibration and Services***

***3419 Lonergan Drive, Rockford, IL 61109***

*and hereby declares that the Organization is accredited in accordance with  
the recognized International Standard:*

### **ISO/IEC 17025:2017**

Whereby, technical competence has been confirmed for the associated scope supplement, in the fields of:

***Dimensional, Electrical, Mechanical, Thermodynamic,  
Mass, Force & Weighing Devices Calibration  
(As detailed in the supplement)***

Accreditation claims for conformity assessment activities shall only be made from the addresses referenced within this certificate and shall apply solely to those activities identified in the related scope. This Accreditation is granted subject to the Accreditation Body rules governing the Accreditation referred to above, and the Organization hereby commits to observing and complying with those rules in their entirety.

For PJLA:

Tracy Szerszen  
President

Perry Johnson Laboratory  
Accreditation, Inc. (PJLA)  
755 W. Big Beaver, Suite 1325  
Troy, Michigan 48084

*Initial Accreditation Date:*

October 07, 2002

*Issue Date:*

July 31, 2025

*Expiration Date:*

November 30, 2027

*Accreditation No.:*

59085

*Certificate No.:*

L25-582

*The validity of this certificate is maintained through ongoing assessments based  
on a continuous accreditation cycle. The validity of this certificate should be  
confirmed through the PJLA website: [www.pjilabs.com](http://www.pjilabs.com)*



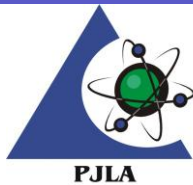
# Certificate of Accreditation: Supplement

## CMM Calibration and Services

3419 Lonergan Drive, Rockford, IL 61109  
Contact Name: Kim Kirkpatcik Phone: 815-874-2153

*Accreditation is granted to the facility to perform the following conformity assessment activities:*

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY ( $\pm$ ) <sup>1</sup>	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Dimensional	1, 2, 3 Blocks	1 in to 3 in	(40 + 2.7L) $\mu$ m	Gage Blocks, Surface Plate, Electronic Amp & Height Gage	T.O.33K6-4-731-1	F1, F2	F
Dimensional	Gage Blocks (Angle)	0.25° to 45°	0.008°	Angle Blocks/ Sine Plate, Electronic Amp, & Surface Plate	NAVAIR 17-20MD-78	F1, F2	F
Dimensional	Calipers	0.001 in to 72 in	(397.8 + 30.2L) $\mu$ m	Gage Blocks, Cylindrical Rings & Surface Plate	T.O. 33K6-4-552-1	F1, F2	F, O
Dimensional	Caliper Checker	1 in to 72 in	(14 + 6L) $\mu$ m	Gage Blocks, Electronic Amp & Surface Plate	T.O. 33K6-4-1184-1	F1, F2	F, O
Dimensional	CMM Calibration and Inspection Volumetric Performance	16 in to 40 in (80 % of CMM Shortest Axis for Ball Bar Length)	150 $\mu$ m	Ball Bar and Step Gage, Gage Blocks, Laser	ASME B89.4.1 ISO10360	F1, F2	F, O
Dimensional	(CNC) CMM Linear Displacement Accuracy (X-Axis)	0.001 m to 80 m	(1 + 1.9L) $\mu$ m	Laser, Gage Blocks, Step Gage	ASME B89.4.1 ISO10360	F1, F2	O
Dimensional	(CNC) CMM Linear Displacement Accuracy (Y-Axis)	0.001 m to 80 m	(1 + 1.9L) $\mu$ m	Laser, Gage Blocks, Step Gage	ASME B89.4.1 ISO10360	F1, F2	O
Dimensional	(CNC) CMM Linear Displacement Accuracy (Z-Axis)	0.001 m to 80 m	(1 + 1.9L) $\mu$ m	Laser, Gage Blocks, Step Gage	ASME B89.4.1 ISO10360	F1, F2	O
Dimensional	Dial Bore Gage	0.14 in to 10 in	(103 + 35L) $\mu$ m	Gage Blocks w/ Accessories & UMM/Bench Mic	T.O. 33K6-4-992-1	F1, F2	F
Dimensional	Dial Indicator Calibrator	0.005 in to 1 in	(40 + 2L) $\mu$ m	Surface Plate, Electronic Indicator, Gage Blocks Optical Flat	TO 33K6-4-2072-1	F1, F2	F
Dimensional	Dial Sink/Counterbore Gage	0.1 in to 1 in	180 $\mu$ m	Gage Blocks, Surface Plate, Ring Gage	T.O. 33K6-4-2732-1	F1, F2	F, O



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Dimensional	Gage Ball	0.05 in to 1 in	22 $\mu$ m	UMM/Bench Mic, Gage Blocks	T.O. 33K6-4-1181-1	F1, F2	F
Dimensional	Gage Blocks, Steel Gage Blocks, TC/CC/Ceramic	0.005 in to 4 in	(4.4 + 1L) $\mu$ m	Labmaster/Mahr UMM, Gage Blocks, Optical Flat Temperature & Humidity Data Logger	NAVAIR 17-20MD-185	F1, F2	F
Dimensional	Gage Blocks, Steel Gage Blocks, TC/CC/Ceramic	5 in to 10 in	(9 + 5L) $\mu$ m	Labmaster/Mahr UMM, Gage Blocks, Optical Flat Temperature & Humidity Data Logger	NAVAIR 17-20MD-185	F1, F2	F
Dimensional	Gage Blocks, Steel Gage Blocks, TC/CC/Ceramic	12 in to 20 in	(17 + 5L) $\mu$ m	Labmaster/Mahr UMM, Gage Blocks, Optical Flat Temperature & Humidity Data Logger	NAVAIR 17-20MD-185	F1, F2	F
Dimensional	Granite Surface Plates (Flatness)	12 in to 36 in (Diagonal)	47 $\mu$ m	Planekator, Autocollimator & Repeat Reading Gage	T.O. 33K6-4-33-1	F1, F2	F, O
Dimensional	Granite Surface Plates (Flatness)	36 in to 54 in (Diagonal)	55 $\mu$ m	Planekator, Autocollimator & Repeat Reading Gage	T.O. 33K6-4-33-1	F1, F2	F, O
Dimensional	Height Gage	0.05 in to 4 in	580 $\mu$ m	Gage Blocks, Surface Plate & Repeat Reading Gage	T.O. 33K6-4-1626-1	F1, F2	F, O
Dimensional	Height Gage	4 in to 36 in	610 $\mu$ m	Gage Blocks, Surface Plate & Repeat Reading Gage	T.O. 33K6-4-1626-1	F1, F2	F, O
Dimensional	Height Master	0.5 in to 48 in	(86 + 5L) $\mu$ m	Electronic Amp, Gage Blocks, Master Level	NAVAIR 17-20MD-26	F1, F2	F
Dimensional	Indicator	0.001 in to 1 in	70 $\mu$ m	Indicator Calibrator	T.O. 33K6-4-889-1	F1, F2	F, O



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Dimensional	Indicator	0.000 15 in to 4 in	590 $\mu$ in	UMM/Bench Mic Gage Blocks & Surface Plate	T.O. 33K6-4-889-1	F1, F2	F, O
Dimensional	Inside Micrometer	1.5 in to 60 in	(110 + 21L) $\mu$ in	Gage Blocks, UMM/Bench Mic, V-Block, Angle Plate & Optical Flat	NAVAIR 17-20-MD-09	F1, F2	F
Dimensional	Intramic/ Bore Mic	0.2 in to 6 in	(95 + 5L) $\mu$ in	Master Setting Rings Rings & Surface Plate	NAVAIT 17-20MD-142	F1, F2	F, O
Dimensional	Kalmaster	0.3 in to 12 in	(42 + 5L) $\mu$ in	Gage Blocks, Electronic Amp & Surface Plate	T.O. 33K6-4-1184-1	F1, F2	F
Dimensional	Length Standards	1 in to 60 in	(33 + 2.2L) $\mu$ in	UMM/Bench Mic, Gage Blocks, Surface Plate, V-Blocks & Electronic Amp	NAVAIR 17-20MD-76	F1, F2	F
Dimensional	Levels	14 in (Maximum)	150 $\mu$ in	Gage Blocks, Granite Surface Plate, Master Level, Straight Edge, Indicator, Height Gage & Sine Plate	NAVAIR 17-20MD-10	F1, F2	F
Dimensional	Mic Master (Outer Diameter)	0.5 in to 10 in	(28 + 5L) $\mu$ in	Gage Blocks, Electronic Amp, Electronic Height Gage & Surface Plate	T.O. 33K6-4-1183-1	F1, F2	F
Dimensional	Micrometer Head	0.05 in to 1 in	(57 + 9L) $\mu$ in	Gage Blocks, Optical Flat, Surface Plate & V-Block	T.O. 33K6-4-15-1	F1, F2	F
Dimensional	Micrometer (Outer Diameter)	0.05 in to 24 in	(57 + 5.3L) $\mu$ in	Gage Blocks, Optical Flat, Surface Plate & V-Block	T.O. 33K6-4-15-1	F1, F2	F, O
Dimensional	Optical Comparators (Linear)	12 in (Maximum)	350 $\mu$ in	Glass Artifact, Stage Fixture, Test Indicator, & Steel Square	NAVAIR 17-20MD-63	F1, F2	F, O
Dimensional	Optical Comparators (Angular)	1° to 360°	0.1°	Glass Artifact & Steel Rule	NAVAIR 17-20MD-63	F1, F2	F, O
Dimensional	Optical Comparators (Magnification)	10X	0.04 %	Magnification Checker	NAVAIR 17-20MD-63	F1, F2	F, O



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Dimensional	Optical Comparators (Magnification)	20X	0.025 %	Magnification Checker	NAVAIR 17-20MD-63	F1, F2	F, O
Dimensional	Optical Comparators (Magnification)	50X	0.015 %	Magnification Checker	NAVAIR 17-20MD-63	F1, F2	F, O
Dimensional	Parallels	1 in to 48 in	(35 + 4L) $\mu$ in	Gage Blocks, Electronic Amp, Electronic Height Gage, Angle Plate, Repeat Reading Gage & Surface Plate	T.O. 33K6-4-731-1	F1, F2	F
Dimensional	Plain Ring Gages	0.01 in to 10 in	(3.3 + 6.4L) $\mu$ in	UMM/ID Comparator Gage Block Set, Gage Block Accessory Kit & Plain Ring Gage	T.O. 33K6-4-2-1	F1, F2	F, O
Dimensional	Plain Plug Gages	0.04 in to 14 in	(28 + 5L) $\mu$ in	Umm/Bench Mic and Gage Blocks	NAVAIR 17-20MD-39	F1, F2	O
Dimensional	Protractor	0.25° to 90°	0.1°	Angle Blocks	TB 9-5210-215-24 US ARMY T.O. 33K6-4-511-1	F1, F2	F
Dimensional	Radius Gages	0.01 in to 1 in	750 $\mu$ in	Optical Comparator	B-I006P153	F1, F2	F
Dimensional	Repeat-o-Meter	0.002 in	33 $\mu$ in	Indicator Calibrator, Gage Blocks, Surface Plate & UMM/Bench Mic	T.O. 33K6-4-889-1	F1, F2	F
Dimensional	Sine Bar/ Plate	2 in to 10 in	230 $\mu$ in	Gage Blocks, Electronic Amp, Height Gage, Indicator, Angle Blocks, Repeat Reading Gage & Surface Plate	T.O. 33K6-4-120-1	F1, F2	F
Dimensional	Steel Rule	72 in	0.027 in	Caliper, Stage Micrometer & Surface Plate	CPOO266	F1, F2	F
Dimensional	Bench mic	0.001 in to 10 in	(29 + 4.7L) $\mu$ in	Gage Blocks, Force Gage, Optical Parallel, Precision Sphere	T.O. 33K6-4-981-1	F1, F2	F, O





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Dimensional	Surface Finish ( $R_a$ )	10 $\mu$ in to 120 $\mu$ in	2.9 $\mu$ in	Surface Finish Analyzer	INT-19.3/ NISTIR 89-4088	F1, F2	F, O
Dimensional	Squares	12 in (Maximum)	470 $\mu$ in	Indy Square, Master Square, Surface Plate, Gage Block, Height Gage & Electronic Amp	T.O. 33K6-4-157-1	F1, F2	F, O
Dimensional	Squares	12 in to 24 in	860 $\mu$ in	Indy Square, Master Square, Surface Plate, Gage Block, Height Gage & Electronic Amp	T.O. 33K6-4-157-1	F1, F2	F, O
Dimensional	Taper Thread Ring (Pitch Diameter)	1/8-27 to 2 1/2-11	380 $\mu$ in	Master Taper Plug, Gage Blocks Electronic Amplifier, Height Gage, Indicator, Surface Plate & Optical Comparator	NAVAIR 17- 20MD-149	F1, F2	F
Dimensional	Taper Thread Ring (Pitch Diameter)	1/8-27 to 4-8	240 $\mu$ in	Master Taper Plug, Gage Blocks Electronic Amplifier, Height Gage, Indicator, Surface Plate & Optical Comparator	NAVAIR 17- 20MD-149	F1, F2	F
Dimensional	Thickness / Feeler Gages	0.001 in to 1 in	(62 + 28L) $\mu$ in	UMM/Bench Mic Gage Blocks, Surface Plate, Indicator	NAVAIR 17- 20MD-15	F1, F2	F, O
Dimensional	Thread Measuring Wires	0.005 in to 0.25 in	(19 + 8D) $\mu$ in	UMM/Bench Mic, Gage Blocks, Plug Gage	T.O. 33K-4-119-1	F1, F2	F, O
Dimensional	Thread Plug Gages (Pitch Diameter)	0-80 to 6 1/4-16	(95.82 + 7.42L) $\mu$ in	UMM/Bench Mic, Gage Blocks, Optical Comparator, Electronic Amp & Thread Measuring Wires	NAVAIR 17-20- MD-141	F1, F2	F
Dimensional	Thread Ring Gages	0-80 to 2 1/2-12	(95.82 + 7.52L) $\mu$ in	Truncated Thread Setting Plug, Plug Gage, V-Block, Electronic Amp & Surface Plate	NAVAIR 17- 20MD-143	F1, F2	F, O



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Dimensional	V Blocks	1 in to 8 in	(46 + 6L) $\mu$ in	Gage Block with Accessories, Electronic Amp, Surface Plate, Height Gage, Plug Gage, & Angle Plate	T.O. 33K6-4-553-1	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 45 Hz)	1 mV to 32.999 mV	6 $\mu$ V + 0.08 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	1 mV to 32.999 mV	6 $\mu$ V + 0.015 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	1 mV to 32.999 mV	6 $\mu$ V + 0.02 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	1 mV to 32.999 mV	6 $\mu$ V + 0.1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	1 mV to 32.999 mV	12 $\mu$ V + 0.35 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 100 kHz to 500 kHz)	1 mV to 32.999 mV	50 $\mu$ V + 0.8 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 45 Hz)	33 mV to 329.999 mV	8 $\mu$ V + 0.03 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	33 mV to 329.999 mV	8 $\mu$ V + 0.014 5 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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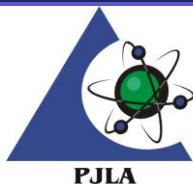
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Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	33 mV to 329.999 mV	8 $\mu$ V + 0.016 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	33 mV to 329.999 mV	8 $\mu$ V + 0.035 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	33 mV to 329.999 mV	32 $\mu$ V + 0.08 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 100 kHz to 500 kHz)	33 mV to 329.999 mV	70 $\mu$ V + 0.2 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 45 Hz)	0.33 V to 3.299 V	50 $\mu$ V + 0.03 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	0.33 V to 3.299 V	60 $\mu$ V + 0.015 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	0.33 V to 3.299 V	60 $\mu$ V + 0.019 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	0.33 V to 3.299 V	50 $\mu$ V + 0.03 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	0.33 V to 3.299 V	125 $\mu$ V + 0.07 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 100 kHz to 500 kHz)	0.33 V to 3.299 V	600 $\mu$ V + 0.24 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O





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Electrical	Equipment to Measure AC Voltage (@ 10 Hz to 45 Hz)	3.3 V to 32.999 V	650 $\mu$ V + 0.03 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	3.3 V to 32.999 V	650 $\mu$ V + 0.015 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	3.3 V to 32.999 V	650 $\mu$ V + 0.024 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	3.3 V to 32.999 V	650 $\mu$ V + 0.035 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	3.3 V to 32.999 V	1 600 $\mu$ V + 0.09 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 1 kHz)	33 V to 329.999 V	2 000 $\mu$ V + 0.015 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 1 kHz to 10 kHz)	33 V to 329.999 V	6 000 $\mu$ V + 0.02 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	33 V to 329.999 V	6 000 $\mu$ V + 0.025 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 20 kHz to 50 kHz)	33 V to 329.999 V	6 000 $\mu$ V + 0.03 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 50 kHz to 100 kHz)	33 V to 329.999 V	50 000 $\mu$ V + 0.2 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 1 kHz)	300 V to 1 020 V	10 000 $\mu$ V + 0.03 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 1 kHz to 5 kHz)	300 V to 1 020 V	10 000 $\mu$ V + 0.025 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 5 kHz to 10 kHz)	300 V to 1 020 V	10 000 $\mu$ V + 0.03 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 20 Hz)	29 $\mu$ A to 329.99 $\mu$ A	0.1 $\mu$ A + 0.2 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 20 Hz to 45 Hz)	29 $\mu$ A to 329.99 $\mu$ A	0.1 $\mu$ A + 0.15 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	29 $\mu$ A to 329.99 $\mu$ A	0.1 $\mu$ A + 0.125 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	29 $\mu$ A to 329.99 $\mu$ A	0.15 $\mu$ A + 0.3 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	29 $\mu$ A to 329.99 $\mu$ A	0.2 $\mu$ A + 0.8 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 kHz to 30 kHz)	29 $\mu$ A to 329.99 $\mu$ A	0.4 $\mu$ A + 1.6 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 20 Hz)	0.33 mA to 3.299 mA	0.15 $\mu$ A + 0.2 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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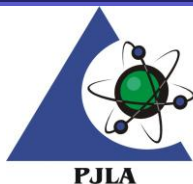
### CMM Calibration and Services

3419 Lonergan Drive, Rockford, IL 61109

Contact Name: Kim Kirkpatcik Phone: 815-874-2153

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FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY ( $\pm$ ) <sup>1</sup>	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Electrical	Equipment to Measure AC Current (@ 20 Hz to 45 Hz)	0.33 mA to 3.299 mA	0.15 $\mu$ A + 0.125 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	0.33 mA to 3.299 mA	0.15 $\mu$ A + 0.1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	0.33 mA to 3.299 mA	0.2 $\mu$ A + 0.2 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	0.33 mA to 3.299 mA	0.3 $\mu$ A + 0.5 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 kHz to 30 kHz)	0.33 mA to 3.299 mA	0.6 $\mu$ A + 1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 20 Hz)	3.3 mA to 32.999 mA	2 $\mu$ A + 0.18 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 20 Hz to 45 Hz)	3.3 mA to 32.999 mA	2 $\mu$ A + 0.09 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	3.3 mA to 32.999 mA	2 $\mu$ A + 0.04 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	3.3 mA to 32.999 mA	2 $\mu$ A + 0.08 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	3.3 mA to 32.999 mA	3 $\mu$ A + 0.2 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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Electrical	Equipment to Measure AC Current (@ 10 kHz to 30 kHz)	3.3 mA to 32.999 mA	4 $\mu$ A + 0.4 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 20 Hz)	33 mA to 329.999 mA	20 $\mu$ A + 0.18 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 20 Hz to 45 Hz)	33 mA to 329.999 mA	20 $\mu$ A + 0.09 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	33 mA to 329.999 mA	20 $\mu$ A + 0.04 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	33 mA to 329.999 mA	50 $\mu$ A + 0.1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	33 mA to 329.999 mA	100 $\mu$ A + 0.2 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 kHz to 30 kHz)	33 mA to 329.999 mA	200 $\mu$ A + 0.4 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 45 Hz)	0.33 A to 1.099 99 A	100 $\mu$ A + 0.18 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	0.33 A to 1.099 99 A	100 $\mu$ A + 0.05 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	0.33 A to 1.099 99 A	1 000 $\mu$ A + 0.6 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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### CMM Calibration and Services

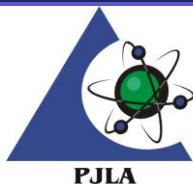
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Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	0.33 A to 1.099 99 A	5 000 $\mu$ A + 2.5 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 45 Hz)	1.1 A to 2.999 99 A	100 $\mu$ A + 0.18 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	1.1 A to 2.999 99 A	100 $\mu$ A + 0.06 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	1.1 A to 2.999 99 A	1 000 $\mu$ A + 0.6 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 5 kHz to 10 kHz)	1.1 A to 2.999 99 A	5 000 $\mu$ A + 2.5 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 100 Hz)	3 A to 10.999 A	2 000 $\mu$ A + 0.06 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 100 Hz to 1 kHz)	3 A to 10.999 A	2 000 $\mu$ A + 0.1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	3 A to 10.999 A	2 000 $\mu$ A + 3 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 100 Hz)	11 A to 20.5 A	5 000 $\mu$ A + 0.12 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 100 Hz to 1 kHz)	11 A to 20.5 A	5 000 $\mu$ A + 0.15 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O





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Electrical	Equipment to Measure AC Current (@ 1 kHz to 5 kHz)	11 A to 20.5 A	5 000 $\mu$ A + 3 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 100 Hz)	29 $\mu$ A to 329 99 $\mu$ A	0.2 $\mu$ A + 0.25 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 100 Hz to 1 kHz)	29 $\mu$ A to 329 99 $\mu$ A	0.5 $\mu$ A + 0.6 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 100 Hz)	0.33 mA to 3.299 9 mA	0.3 $\mu$ A + 0.25 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 100 Hz to 1 kHz)	0.33 mA to 3.299 9 mA	0.8 $\mu$ A + 0.6 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 500 Hz to 1 kHz)	0.33 mA to 3.299 9 mA	0.15 $\mu$ A + 0.1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 100 Hz)	33 mA to 329.99 mA	40 $\mu$ A + 0.08 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 100 Hz to 1 kHz)	33 mA to 329.99 mA	100 $\mu$ A + 0.2 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 10 Hz to 100 Hz)	33 mA to 329.99 mA	200 $\mu$ A + 0.12 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 100 Hz to 440 Hz)	33 mA to 329.99 mA	1 000 $\mu$ A + 0.3 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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Electrical	Equipment to Measure AC Current (@ 10 Hz to 100 Hz)	3 A to 20.5 A	2 000 $\mu$ A + 0.12 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 100 Hz to 1 kHz)	3 A to 20.5 A	5 000 $\mu$ A + 1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Voltage	3 $\mu$ V to 329.999 9 mV	1 $\mu$ V + 0.002 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Voltage	6 $\mu$ V to 3.299 99 V	2 $\mu$ V + 0.001 1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Voltage	60 $\mu$ V to 32.999 9 V	20 $\mu$ V + 0.001 2 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Voltage	30 V to 329.999 9 V	150 $\mu$ V + 0.001 8 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Voltage	100 V to 1.02 kV	1 500 $\mu$ V + 0.001 8 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Current	0.006 $\mu$ A to 329.999 $\mu$ A	0.002 $\mu$ A + 0.015 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Current	0.015 $\mu$ A to 32.999 9 mA	0.005 $\mu$ A + 0.01 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Current	0.075 $\mu$ A to to 329.999 mA	0.025 $\mu$ A + 0.01 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Current	7.5 $\mu$ A to 329.999 mA	2.5 $\mu$ A + 0.01 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Current	120.1 $\mu$ A to 1.099 99 A	40 $\mu$ A + 0.02 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Current	1.1 A to 2.999 99 A	40 $\mu$ A + 0.038 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure DC Current	1.5 mA to 10.999 99 A	500 $\mu$ A + 0.05 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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Electrical	Equipment to Measure DC Current	11 A to 20.5 A	750 $\mu$ A + 0.1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	0.19 nF to 0.399 9 nF	0.01 nF + 0.5 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	0.4 nF to 1.099 9 nF	0.01 nF + 0.5 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	1.1 nF to 3.299 9 nF	0.01 nF + 0.5 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	3.3 nF to 10.999 nF	0.01 nF + 0.25 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	11 nF to 32.999 nF	0.1 nF + 0.25 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	33 nF to 109.99 nF	0.1 nF + 0.25 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	110 nF to 329.99 nF	0.3 nF + 0.25 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	0.33 $\mu$ F to 1.099 99 $\mu$ F	1 nF + 0.25 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	1.1 $\mu$ F to 3.299 99 $\mu$ F	3 nF + 0.25 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	3.3 $\mu$ F to 10.999 9 $\mu$ F	10 nF + 0.25 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	11 $\mu$ F to 32.999 9 $\mu$ F	30 nF + 0.4 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	33 $\mu$ F to 109.999 $\mu$ F	100 nF + 0.45 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	110 $\mu$ F to 329.999 $\mu$ F	300 nF + 0.45 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	0.33 $\mu$ F to 1.099 99 mF	1 $\mu$ F + 0.45 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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Electrical	Equipment to Measure Capacitance	1.1 mF to 3.299 9 mF	3 $\mu$ F + 0.45 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	3.3 mF to 10.999 9 mF	10 $\mu$ F + 0.45 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	11 mF to 32.999 mF	30 $\mu$ F + 0.75 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Measure Capacitance	33 mF to 100 mF	100 $\mu$ F + 1.1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Oscilloscopes (DC Voltage) (50 $\Omega$ )	1 mV to 6.6 V	40 $\mu$ V + 0.29 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Oscilloscopes (DC Voltage) (1 M $\Omega$ )	1 mV to 130 V	40 $\mu$ V + 0.054 4 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Oscilloscopes (AC Voltage) (50 $\Omega$ )	1 mV to 6.6 V	40 $\mu$ V + 0.29 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Oscilloscopes (AC Voltage) (1 M $\Omega$ )	1 mV to 130 V	40 $\mu$ V + 0.11 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Oscilloscopes (Wave Gen.) (50 $\Omega$ )	0.001 8 Vp-p to 2.5 Vp-p	100 $\mu$ V + 0.346 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Oscilloscopes (Wave Gen.) (1 M $\Omega$ )	0.001 8 Vp-p to 55 Vp-p	100 $\mu$ V + 0.346 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Oscilloscopes (Input Impedance) (Measure)	40 $\Omega$ to 60 $\Omega$	0.1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Oscilloscopes (Input Impedance) (Measure)	0.5 M $\Omega$ to 1 M $\Omega$	0.1 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Oscilloscopes (Leveled Sinewave) (@ 50 kHz to 11.1 GHz)	5 mV to 5.5 V	100 $\mu$ V + 5.07 % of reading	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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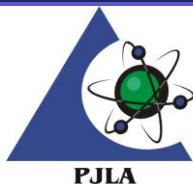
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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	-250 °C to -100 °C	0.5 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	-100 °C to -25 °C	0.16 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	-25 °C to 350 °C	0.14 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	350 °C to 650 °C	0.16 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	650 °C to 1 000 °C	0.21 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	-210 °C to -100 °C	0.27 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	-100 °C to -30 °C	0.16 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O





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### CMM Calibration and Services

3419 Lonergan Drive, Rockford, IL 61109

Contact Name: Kim Kirkpatcik Phone: 815-874-2153

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FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY ( $\pm$ ) <sup>1</sup>	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	-30 °C to 150 °C	0.14 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	150 °C to 760 °C	0.17 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	760 °C to 1 200 °C	0.23 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	-200 °C to -100 °C	0.33 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	-100 °C to -25 °C	0.18 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	-25 °C to 120 °C	0.16 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	120 °C to 1 000 °C	0.26 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	1 000 °C to 1 372 °C	0.4 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	0 °C to 250 °C	0.57 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	250 °C to 400 °C	0.35 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	400 °C to 1 000 °C	0.33 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	1 000 °C to 1 767 °C	0.4 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S	0 °C to 250 °C	0.47 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S	250 °C to 1 000 °C	0.36 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O



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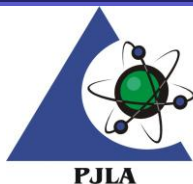
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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S	1 000 °C to 1 400 °C	0.37 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S	1 400 °C to 1 767 °C	0.46 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	-250 °C to -150 °C	0.63 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	-150 °C to 0 °C	0.24 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	0 °C to 120 °C	0.16 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	120 °C to 400 °C	0.14 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type B	600 °C to 800 °C	0.44 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type B	800 °C to 1 000 °C	0.34 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type B	1 000 °C to 1 550 °C	0.3 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type B	1 550 °C to 1 820 °C	0.33 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	0 °C to 150 °C	0.3 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	150 °C to 650 °C	0.26 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	650 °C to 1 000 °C	0.31 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	1 000 °C to 1 800 °C	0.5 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O



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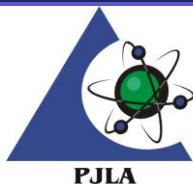
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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	1 800 °C to 2 316 °C	0.84 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type L	-200 °C to -100 °C	0.37 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type L	-100 °C to 800 °C	0.26 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type L	800 °C to 900 °C	0.17 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	-200 °C to -100 °C	0.4 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	-100 °C to -25 °C	0.22 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	-25 °C to 120 °C	0.19 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O





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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	120 °C to 410 °C	0.18 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	410 °C to 1 300 °C	0.27 °C	Electrical Simulation of Thermocouple Output Fluke 5520A/SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	Up to 11 $\Omega$	0.27 m $\Omega$ + 11 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	11 $\Omega$ to 33 $\Omega$	0.64 m $\Omega$ + 8 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	33 $\Omega$ to 110 $\Omega$	0.44 m $\Omega$ + 8.1 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	110 $\Omega$ to 330 $\Omega$	0.85 m $\Omega$ + 10 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	330 $\Omega$ to 1.1 k $\Omega$	2.3 m $\Omega$ + 9.6 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	1.1 $\Omega$ to 3.3 k $\Omega$	4.7 m $\Omega$ + 13 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	3.3 k $\Omega$ to 11 k $\Omega$	8.9 m $\Omega$ + 12 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	11 k $\Omega$ to 33 k $\Omega$	75 m $\Omega$ + 12 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	33 k $\Omega$ to 110 k $\Omega$	120 m $\Omega$ + 12 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	110 k $\Omega$ to 330 k $\Omega$	550 m $\Omega$ + 13 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	330 k $\Omega$ to 1.1 M $\Omega$	1.5 $\Omega$ + 12 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O



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Electrical	Equipment to Source Resistance	1.1 M $\Omega$ to 3.3 M $\Omega$	8.8 $\Omega$ + 24 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	3.3 M $\Omega$ to 11 M $\Omega$	290 $\Omega$ + 32 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	11 M $\Omega$ to 33 M $\Omega$	4.6 k $\Omega$ + 58 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	33 M $\Omega$ to 110 M $\Omega$	46 k $\Omega$ + 48 $\mu\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	110 M $\Omega$ to 330 M $\Omega$	1.7 M $\Omega$ + 0.18 m $\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Electrical	Equipment to Source Resistance	330 M $\Omega$ to 1.1 G $\Omega$	7.3 M $\Omega$ + 2.2 m $\Omega/\Omega$	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Time and Frequency	Equipment to Source Frequency	45 Hz to 120 Hz	0.11 mHz	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Time and Frequency	Equipment to Source Frequency	120 Hz to 1.2 kHz	0.98 mHz	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Time and Frequency	Equipment to Source Frequency	1.2 kHz to 12 kHz	9.3 mHz	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Time and Frequency	Equipment to Source Frequency	12 kHz to 120 kHz	93 mHz	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Time and Frequency	Equipment to Source Frequency	120 kHz to 1.2 MHz	0.93 Hz	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Time and Frequency	Equipment to Source Frequency	1.2 MHz to 2 MHz	1.7 Hz	Fluke 5520A/ SC600	GIDEP / OEM Manual	F1, F2	F, O
Mechanical	Torque	5 in•oz to 50 in•oz	0.5 % of reading	CDI 5000ST	T.O 33K6-4-450-1	F1, F2	F, O
Mechanical	Torque	4 in•lb to 50 in•lb	0.5 % of reading	CDI 5000ST	T.O 33K6-4-450-1	F1, F2	F, O
Mechanical	Torque	30 in•lb to 400 in•lb	0.5 % of reading	CDI 5000ST	TB 9-5120-202-24	F1, F2	F, O
Mechanical	Torque	80 in•lb to 1 000 in•lb	0.5 % of reading	CDI 5000ST	TB 9-5120-202-24	F1, F2	F, O
Mechanical	Torque	20 ft•lb to 250 ft•lb	0.5 % of reading	CDI 5000ST	TB 9-5120-202-24	F1, F2	F, O



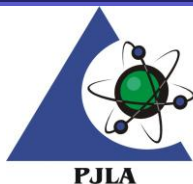
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Mechanical	Torque	100 ft•lb to 1 000 ft•lb	0.7 % of reading	AWS Model ITF 1000	TB 9-5120-202-24	F1, F2	F
Mechanical	Pressure Gage	20 psi to 2 000 psi	( $2.58 \times 10^{-1} + 5.11 \times 10^{-4}$ ) psi	Nitropak Nitrogen Calibration Source & Digital Test Gage	NAVAIR 17-20MP-165	F1, F2	F, O
Mechanical	Pressure Gage	1 500 psi to 7 000 psi	0.17 psi + 0.011 % of reading	Dead Weight Tester Digital Test Gage	NAVAIR 17-20MP-165	F1, F2	F, O
Mechanical	Pressure Gage	7 000 psi to 15 000 psi	0.17 psi + 0.013 % of reading	Dead Weight Tester Digital Test Gage	NAVAIR 17-20MP-165	F1, F2	F, O
Mechanical	Indirect Verification of Vickers Hardness	220 HV to 720 HV	13 HV	Master Test Blocks, Stage, Micrometer/ Microscope	ASTM E384	F1, F2	F, O
Mechanical	Indirect Verification of Knoop Hardness	220 HK to 500 HK	15 HK	Master Test Blocks, Stage, Micrometer/ Microscope	ASTM E384	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HRA)	20 HRA to 65 HRA	1.3 HRA	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HRA)	70 HRA to 78 HRA	1.3 HRA	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HRA)	80 HRA to 84 HRA	1.3 HRA	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HRBW)	40 HRBW to 59 HRBW	1.5 HRBW	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HRBW)	60 HRBW to 79 HRBW	1.5 HRBW	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HRBW)	80 HRBW to 100 HRBW	1.4 HRBW	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O



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Mechanical	Indirect Verification of Rockwell Hardness (HRC)	20 HRC to 30 HRC	1.3 HRC	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HRC)	35 HRC to 55 HRC	1.3 HRC	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HRC)	60 HRC to 65 HRC	0.78 HRC	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HR15N)	70 HR15N to 77 HR15N	1.4 HR15N	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HR15N)	78 HR15N to 88 HR15N	1.4 HR15N	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HR15N)	90 HR15N to 92 HR15N	1.1 HR15N	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HR45N)	20 HR15N to 31 HR45N	1.5 HR45N	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HR45N)	37 HR15N to 61 HR45N	1.5 HR45N	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HR45N)	66 HR15N to 72 HR45N	1.1 HR45N	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HR30TW)	43 HR30TW to 56 HR30TW	1.5 HR30TW	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O



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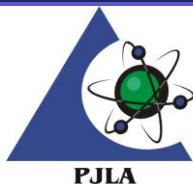
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FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY ( $\pm$ ) <sup>1</sup>	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Mechanical	Indirect Verification of Rockwell Hardness (HR30TW)	57 HR30TW to 69 HR30TW	1.5 HR30TW	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mechanical	Indirect Verification of Rockwell Hardness (HR30TW)	70 HR30TW to 83 HR30TW	1.4 HR30TW	Certified Test Blocks	ASTM E18-08a	F1, F2	F, O
Mass, Force, and Weighing Devices	Force Gage	5 lb to 110 lb	$0.17 + 2 \times 10^{-3} \text{F}$ lb	Class F Weights, Torque Standard & Fixture	NAVAIR 17-20MF-04	F1, F2	F, O
Mass, Force, and Weighing Devices	Force Gage	1 g to 2 268 g	$(77 + 2 \times 10^{-3} \text{F}) \text{ g}$	Class F Weights, Torque Standard & Fixture	NAVAIR 17-20MF-04	F1, F2	F, O
Mass, Force, and Weighing Devices	Weight Scale	1 g to 1 000 g	$(1.13 \times 10^{-2} + 5.1 \times 10^{-4} \text{Wt}) \text{ g}$	Class F Weights	NIST Handbook 44	F1, F2	F, O
Mass, Force, and Weighing Devices	Weight Scale	2.5 lb to 110 lb	$(4.55 \times 10^{-2} + 4.55 \times 10^{-3} \text{Wt}) \text{ g}$	Class F Weights	NIST Handbook 44	F1, F2	F, O





## Certificate of Accreditation: Supplement

### CMM Calibration and Services

3419 Lonergan Drive, Rockford, IL 61109  
Contact Name: Kim Kirkpatcik Phone: 815-874-2153

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1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor k (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. Location of activity:

Location Code	Location
F	Conformity assessment activity is performed at the CABs fixed facility
O	Conformity assessment activity is performed onsite at the CABs customer location
4. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratories fixed location for similar calibrations. This is due to the effects of transportation of the standards and equipment and upon environmental conditions at the customer site which are typically not controlled as closely as at the laboratories fixed location.
5. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.
6. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.