Precision Measurement Equipment Laboratory (PMEL). FAC: 2171

CATCODE: 218868
OPR: AF/A4LF
OCR: WR-ALC/562 CBSG (AFMETCAL)

1.1. **Description.** This facility provides intermediate-level maintenance and calibration of test, measurement, and diagnostic equipment (TMDE) for assigned units. PMEL personnel calibrate, certify and repair TMDE at regular intervals and provide emergency assistance on TMDE as required (see AFI 21-113, *Air Force Metrology and Calibration [AFMETCAL] Management*).

1.2. **Requirements Determination.** TO 00-20-14 lists bases authorized PMELs.

1.3. **Scope Determination.** See Table 1.1 and 1.2.

1.4. **Dimensions.** See Table 1.1 and 1.2.

1.5. **Design Considerations.** Obtain PMEL design information from FC 4-218- 01F, Air Force Criteria for Precision Measurement Equipment Laboratory Design and Construction. Obtain operational information from the 562d Combat Sustainment Group (AFMETCAL)/WR-ALC through AF/A4LF. TO 00-20-14 contains day-to-day operational guidance for PMELs.

1.5.1. The laboratory requires tight environmental controls for temperature, humidity, and dust and a calibration and repair area free from interfering vibration. These environmental constraints vary. Ensure new and modified facilities conform to the specifications in FC 4-218-01F.

1.5.2. All PMELs require certification per AFI 21-113. There are two major operational criteria for certification: 1) temperature and humidity remain in tolerance at least 90 percent of the time, measured over a 12-month period, and 2) the facility meets the requirements of FC 4-218-01F.

Table 1.1. PMEL Type A-F Space.

Workload per Year (Items):	**Type A0-3600**		**Type B3601-5000**		**Type C 5001-7200**	
	m^2	**ft^2**	**m^2**	**ft^2**	**m^2**	**ft^2**
Scheduling/Receiving[2]	69	740	86	924	121	1,300
Equipment Cleaning[2]	9	98	9	98	16	175
Calibration/Repair[2]	207	2,230	260	2,800	362	3,900
Workload per Year (Items):	**Type D7201-10000**		**Type E10001-20000**		**Type F20001-100000**	
	m^2	**ft^2**	**m^2**	**ft^2**	**m^2**	**ft^2**
Scheduling/Receiving[2]	159	1,711	238	2,567	334	3,593
Equipment Cleaning[2]	16	175	24	263	34	368
Calibration/Repair[2]	482	5,185	723	7,778	1,012	10,889

NOTES:
1. Area requirements are based on the typical PMEL. Add square footage if the equipment in Table 1.2 resides in the PMEL facility.
2. Scheduling/receiving/equipment storage areas are estimated at one-third the calibration/repair requirement.

Table 1.2. Space Requirements for PMEL Facilities.

Functions	Net Building Area	
	m^2	ft^2
Vestibule[1,2]		
Lobby/Waiting[1,2]		
Reception[1,2]		
Break Room[1,2]		
Office Space[1]		
Conference Room/Training[1,2]		
Technical Library	21.3	229
Scheduling/Receiving[3]		
Equipment Storage	18.6	200
Equipment Cleaning[3]		
Air Lock	5	54
Calibration/Repair[3]		
68 Degree F Room[4,5]	55.7	600
Shield Room[4]	18.6	200
Night Vision Calibration[4]	9.3	100
Aircraft/Wheel Load Scales[4] (P/Ns 654000/804000 or equivalent: 2,400 lbs)	8.2	88
Force Gage/Load Cell/Dynamometers[4] (P/N C99728 or equivalent: 1,400 lbs)	2.6	28
Torque Multiplier Calibration System[4]	7.4	80
Tensiometer Calibration System[4,6] (P/N 774000 or equivalent: 4,800 lbs)	5.9	64
Bullion Balance[4]	2.8	30
Fiber Optic Calibration System[4]	4.5	48
High Voltage Calibrator[4]	3.3	35
Hoist (F-15 Rock)[4]	1.7	18
North-Seeking Gyro Pad[4]	1.5	16
Photometric Bench[4]	18.2	196
Surface Plate (2 x 3 ft)[4] (326 lbs)	6.7	72
Surface Plate (3 x 6 ft)[4] (965 lbs)	10	108
Surface Plate (4 x 8 ft)[4] (3,920 lbs)	13	140
Temp Bath Hood[4]	1.7	18
Transportable Field Calibration Unit Storage[4]	9.3	100
Portable Automatic Test Equipment Calibrator Storage[4]	9.3	100

NOTES:
1. Refer to Facility Class 6 of this Manual for administrative space standards.
2. Number of personnel requires user justification.
3. Size varies depending on inventory supported and type of facility. See Table 1.1.
4. Installation specific requirement.
5. 600 ft^2 minimum.
6. Requires a 9.5 ft minimum ceiling height.