

# APPENDIX D

**Legend for Architectural and Engineering Design Requirement Matrix  
(Reference MIL Handbook 1191)**

**Air balance description**

-	Room exhaust and/or return is 10% more than supply
--	Room exhaust and/or return is 20% more than supply
+	Room exhaust and/or return is 10% less than supply
+ -	Room pressure to be positive or negative as required by isolation mode of associated bedroom. See HVAC note E.
++	Room exhaust and/or return is 20% less than supply
0	Room exhaust and/or return is equal to supply.
EX	Room totally exhausted without supply.

**Ceiling material description**

A	Acoustic ceiling tile.
C	Concrete.
G	Gypsum wallboard.
P	Plaster.
S	Special. Determined by designer.

**Ceiling finish material description**

CS	Concrete sealer.
LG	Liquid glaze coat.
PF	Prefabricated.
PT	Paint.
SP	Special. Determined by designer.
EP	Epoxy coating, seamless, with coved corners.
T1	Standard finish.
T2	Waterproof finish.

**Ceiling height description**

A	If this area is combined with a delivery room, provide 3000 mm (10'-0") ceiling height, minimum. If not combined, provided 2400 mm (8'-0") ceiling height
B	3000 mm (10'-0") minimum.
VAR	Varies (designers choice).

**Door size description**

A	Pair 750 mm (2'-6") doors.
B	Pair 900 mm doors.
C	Pair 1050 mm doors.
D	Double door, 1200 mm and 450 mm
E	Pair 900 mm doors or 1200 mm doors as directed by Using Service.
F	900 mm between scrub room and nursery. 1200 mm between delivery room and nursery.
G	In clinics, provide 1050 mm. In hospitals, provide double door, 1050 mm and 450 mm.
H	2400 mm (8'-0"), pair 1200 mm doors, by 2600 mm (8'-6") breakaway glass doors or double door 1200 mm and as directed by Using Service.
I	3000 mm (10'-0") by 3000 mm (10'-0") minimum. Number as required by dock.
J	Main OR door, pair 900 mm doors. Staff door from clean corridor, 1200 mm. Door to sub-sterile, 1050 mm.
K	Main OR door, pair 900 mm doors or 1200 mm and 450 mm or 1050 mm and 450 mm as directed by Using Service. Staff door from clean corridor, 1200 mm. Door to sub-sterile, 1050 mm.
L	Darkroom door. Provide revolving door or light tight door, or vestibule entry, as appropriate.
M	Open (no door) or 900 mm door as directed by Using Service.
N	Open (no door) or 12000 mm door as directed by Using Service.
OPEN	No door required.
SP	Special, designers choice.
VAR	Varies, designers choice.
VET	Special door in veterinary facility. See Architectural note 13.

**Emergency power - lighting description**

L	Task lighting.
LB	Task lighting, general illumination, and battery powered lighting. (refer to section 10)
LE	Egress lighting as required by NFPA 101.

**Emergency power note description**

E	Selected equipment connections.
S	Special.
U	Provide emergency power only as required by using military department.

**Emergency power - power description**

R	Selected receptacles.
R1	One receptacle per bed.
RA	All receptacles.
RC	Dedicated receptacles for critical care. (refer to NFPA-70, Article 517)

**Floor and base finishes description**

AR	Acrylic resin system with integral covered base.
CP	Carpet with resilient base.
CS	Concrete sealer. Resilient base on gypsum wallboard and plaster walls. No base on concrete or block walls.
CT	Ceramic tile with ceramic tile base.
ER	Epoxy resin system with integral cove base.
ET	Epoxy terrazzo with epoxy terrazzo base.
PF	Prefabricated.
QT	Quarry Tile with quarry tile base.
SP	Special. Determined by designer.
SV	Sheet vinyl with integral vinyl base.
VT	Vinyl composition tile with resilient base.

**HVAC note description**

A	Nursery Isolation Room relative pressurization requirements may vary among individual facilities, depending upon functional requirements. Designers shall coordinate with the using service for each facility to determine whether disease isolation (negative pressurization) or protective isolation (positive pressurization) is required. While "switchability" (room convertible from disease isolation to protective isolation, or vice versa) is discouraged, facility function and program limitations may dictate that this feature be provided.
B	General filtration. Prefilters, 25%, are required for all outdoor air. The values for the 25%, 80%, and 90% filters are by the atmospheric dust spot efficiency test. The atmospheric dust spot efficiencies are the minimum average and are based on ASHRAE Standard 52-76. Designation "99" indicates that a 99.7% efficiency HEPA filter is required, based on the DOP (Dy-Octyl phthalate, or bis 2-ethylhexylphthalate) test method. The DOP test efficiency is based on MIL-STD 282. All filters should be installed to prevent leakage between the filter segments and between the filter and its supporting frame.
C	During period of non-use, the air volume may be reduced to 6 air changes per hour, while maintaining the required air balance. 90 percent intermediate filtration is indicated because the same AHU normally serves adjacent OR/DR support areas requiring this level of filtration. Where the AHU serves only OR/DR spaces, the 90% intermediate filter may be replaced with a 60%-80% filter, intended to prolong the life of the final filter.
D	When the Using Service intends the routine usage of nitrous oxide in the DTR, routine being defined as exceeding 5 hours per week, the following criteria shall apply: <ul style="list-style-type: none"> <li>- DTR room air changes shall be not less than 12 total AC/H.</li> <li>- The room shall be totally exhausted.</li> <li>- Provide a minimum of one low-level exhaust register, sized to remove a minimum of 20% of the total room exhaust volume.</li> <li>- During period of non-use, air change rate may be reduced to 3 total AC/H.</li> </ul>
E	General, Isolation Rooms. For Disease Isolation Bedrooms, bedroom to be negative to anteroom, anteroom to be negative to corridor. For Protective Isolation Bedrooms, bedroom to be positive to anteroom, anteroom to be positive to corridor. Note that room description and engineering requirements for BR11, BR1M, BR1P, and BR1S are for Disease Isolation; this does not preclude the provision of Protective Isolation bedrooms in pediatrics, ICU, or other ward locations when local conditions dictate need. Protective Isolation engineering requirements will be the same as for BR1T2.
F	Exhaust all to outside applicable to process only.
G	Design in accordance with NFPA 99.
H	May require vehicle exhaust, CO detection.
I	When the Using Service intends the routine usage of nitrous oxide in the DTR, routine being defined as exceeding 5 hours per week, the following criteria shall apply: <ul style="list-style-type: none"> <li>- DTR room air changes shall be not less than 12 total AC/H.</li> <li>- The room shall be totally exhausted.</li> <li>- Provide a minimum of one low-level exhaust register, sized to remove a minimum of 20% of the total room exhaust volume.</li> <li>- During period of non-use, air change rate may be reduced to 5 total AC/H. Positive pressurization shall be maintained.</li> </ul>
J	For projects incorporating brace/appliance fitting or shop applications, evaluate room and equipment exhaust requirements for removal of toxic or flammable fumes and dust.

K	Not used.
L	Not used.
M	Provide exhaust or fume hoods, and localized exhaust as required.
N	Verify computer heat load requirement.
O	Provide adjustable (to user) humidistat within the room.
P	Provide adjustable (to user) thermostat and humidistat within the room.
Q	HEPA filtration of room exhaust is not required if designed to discharge away from public areas (sidewalks, eg.) and such as to avoid reentrainment into any building opening or outside air intake. Exhaust of TB isolation room, toilet, and anteroom to be by dedicated exhaust system, ie., exhaust system serving only TB isolation room (s). Isolation room pressure to remain constant - not switchable from Disease Isolation mode to Protective Isolation mode, or vice versa.
R	HEPA filtration of supply air required.
S	Not used.

**Lighting note description**

A	Provide full range dimming in room or special task area.
B	Provide recessed ceiling exam fixture with high color rendering (80 minimum CRI) lamps and 1100 lux task illumination on bed or recovery area.
C	Provide high color rendering index type (80 minimum CRI) lamps.
D	Provide O.R. type light fixture or exam light with dimmer at task location.
E	Explosion proof design typically required.
F	Provide multi-level switching with conventional on/off switching. Provide lighting control at individual task location where practical.
G	Provide safelight for film processing as required by equipment list.
H	Provide full-range dimming at task location.
I	Provide recessed ceiling mounted task illumination with full range dimming.

**Medical gas note description**

A	Each patient is provided an oxygen. In psychiatry and light care units, pipe medical gases through the zone valve box to a point immediately above the corridor ceiling where the piping will be capped. Each patient is provided a medical vacuum inlet, see individual listing. Each patient is provided access to a medical air outlet. Where two patients share a common wall, they may share a single outlet, excluding psychiatric patients. Do not provide in pediatric play area.
B	The medical gases specified will be per patient station, workstation, etc.
C	Each overhead service column will contain 2 OX, 2 MV, 1 MCA, 1 NO. In addition 1 OX, 1 MCA, 1 MV will be wall or overhead track mounted, as indicated, for infant resuscitation. Dedicated c-section rooms have 2 columns.
D	All anesthetizing locations will have a waste anesthetic gas disposal system. Use of medical vacuum system is not recommended for evacuation in DoD facilities. DLV may be used in dental treatment rooms for anesthesia scavenging where a central system is installed.
E	One each OX, MCA, MV is required in both the headwall unit and the infant resuscitation area of the birthing room.
F	Each overhead service column will contain 2 OX, 2 MV, 2 MCA, 1 NO and 1 NI. An additional MV will be provided on each wall as appropriate.
G	The medical gases specified will be per bassinets or infant section.
H	The medical gases specified will be per 6-8 bassinets or infant stations. Where the LDR birthing concept is used, a minimum of one grouping will be provided in each LDR.
I	For equipment testing and calibration, equipment shall be tested with the specified gas used in normal operation.
J	Provide valved regulator station for PA.
K	Each utility center requires 1 DCA and 1 DLV.
L	A natural gas outlet (counter mounted) and a lab air outlet (under counter mounted) will be provided at each dental work station as shown in Appendix A.
M	All contingency beds require 1 OX, 1 MV, 1 MCA per bed station. In bed expansion situations in "peace time" facilities also provide 1 OX, 1 MV, 1 MCA per contingency bed expansion requirements noted in the program for design.
N	Facilities may use nitrogen for driving surgical handpiece in oral surgery DTRs.

**Structural floor load description**

A	Design for actual wheel loads or 7.5 kPa (150 psf) minimum.
B	Design for actual equipment loads or 7.5 kPa (150 psf) minimum.
C	Design for actual equipment loads or 5 kPa (100 psf) minimum.
D	Design for actual weight of shelves plus 55 kg/filing meter (3.1 lbs/filing in.) or 7.2 kPa (150 psf) minimum on the floor.

**Wall finish material code description**

AF	Acoustical wall fabric.
CS	Concrete sealer.
CT	Ceramic tile.
LG	Liquid glaze coat.
PF	Prefabricated.
PT	Paint.
EL	Epoxy coating, seamless, lead lined.
EP	Epoxy coating, seamless.
SP	Special. Determined by designer.
VF	Vinyl wall fabric.
VP	Veneer plaster.

**Wall material description**

C	Concrete.
B	Concrete block or clay tile.
G	Gypsum wallboard.
P	Plaster.
S	Special. Determined by designer.