HCAi
Department of Health Care Access and Information

HBSB Codes and Processes Committee

California Mechanical Code, Part 4

Initial Express Terms (IET) Presentation - Update

2024 Triennial Code Cycle

2/21/2024

Font Legend

- Model Code is upright black FONT
- *Existing State amendments are italicized in black font*
- *New State amendments are underlined and italicized in blue font*
- ~~*Deletions of State amendments are stricken out in gray font*~~

Section 321.0 – Essential Power

SECTION 321.0 Essential Mechanical Provisions. [OSHPD 1, ~~1R~~, 2, 3 (Surgical Clinics only) 4 & 5] *During periods of power outages essential electrical power shall be provided for the following equipment:*

. . .

321.3 *Cooling equipment necessary to maintain temperature and humidity listed in Table 4A for a minimum of one operating room and other category 1 spaces as identified in the facility's safety risk assessment.*

Section 321.0 – Essential Power (Cont.)

321.3 *Cooling equipment necessary to maintain temperature and humidity listed in Table 4-A for a minimum of one operating room and other spaces as identified in the functional program. [next code cycle expand part 1 func program risk assessment]*

. . .

321.~~5~~6 *All control components, ~~and~~ control systems and fire and smoke dampers necessary for the normal operation of equipment required to have essential electrical power.*

Section 322 – Sensitive Areas

SECTION 322.0 Sensitive Areas or Rooms. [OSHPD 1, ~~1R~~, 2, 3 (Surgical Clinics) 4 & 5] *The following are sensitive areas or rooms:*

(1) Operating room~~,~~
(2) Hybrid operating room
(3) Cesarean operating room
(4) Delivery room~~,~~
(5) Surgical Cystoscopy
(6) Class 3 imaging
(7) Cardiac catheterization lab
(8) Trauma/cardiac room
(10) Post-anesthesia care unit
(11) Intensive care
(12) Newborn intensive-care nursery unit
(13) Newborn nursery
(14) Burn unit
(15) Protective Environment Room
(16) Procedure room
(17) Class 2 imaging
(18) Gastrointestinal endoscopy procedure room

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(15) Procedure room
(16) Class 2 imaging
(17) Gastrointestinal endoscopy procedure room

407.3 – Air Balance

407.3 Air Balance.

407.3.1 *The ventilation systems shall be designed and balanced to provide the general air balance relationship to adjacent areas, shown in Table 4-A. The ventilation systems shall be balanced in accordance with the latest edition of standards published by the Associated Air Balance Council (AABC), the National Environmental Balancing Bureau (NEBB), or the Testing, Adjusting and Balancing Bureau (TABB). Air balance tolerancing values shall not result in noncompliance of the minimum required pressurization per Table 4-A.*

The air balance tolerance of the pressure differential shall be 100% to 110% of the design air flow differential.

407.4 – Air Circulation

~~407.4.1.7~~407.4.5 Recirculating Room Units. ~~*For spaces where Table 4-A permits air to be recirculated by room units, the portion of the minimum total air changes per hour required for a space that is greater than the minimum outdoor air changes per hour required component may be provided by recirculating room HVAC units. Such recirculating room HVAC units shall*~~ *Recirculating room units shall be permitted to provide a portion of the total air changes for a space in excess of the minimum outside air changes where indicated with a "yes" in the "Room Units" column of Table 4-A. The following conditions shall be met:*

(1) shall not receive nonfiltered, nonconditioned outdoor air;

407.4 – Air Circulation (Cont.)

~~407.4.1.7~~407.4.5 Recirculating Room Units. (Cont.)

(2) shall serve only a single space; and
(3) provide minimum MERV 8 filtration upstream of ~~per Section 408.2 and Section 408.3 for airflow passing over~~ any surface that is designed to condense water. OSHPD 2 spaces shall be permitted to provide the manufacturer's recommended filter for airflow passing over any surface that is designed to condense water.~~This filter shall be located upstream of any such cold surface, so that all of the air passing over the cold surface is filtered.~~
(4)Coils designed not to condense water shall maintain surfaces above the dew point temperature.

407.4.5.1 Recirculating Room Units for Unoccupied spaces. *For spaces not listed in Table 4-A and not directly connected to a patient care area, the minimum filtration for a recirculating room unit may be as recommended by the equipment manufacturer.*

407.5 Variable Air Volume

407.5.1.3 *Spaces with pressure requirements per Table 4-A shall utilize an automatic modulating damper in the return or exhaust air for each space. The damper will modulate from full open to minimum position in conjunction with the supply air VAV terminal equipment to maintain space pressurization.*

407.5.1.4 *Sensitive rooms or areas shall be provided with an automatic modulating damper on the supply and on the return or exhaust air for each space where needed to maintain constant air flows.*

407.5.1.5 *NR spaces per Table 4-A shall utilize a modulating damper in the return air for each zone or zones with similar conditions.*

417.0 Testing and Balancing AIIR and PE

417.0 Testing and Balancing Airborne Infection Isolation Rooms and Protective Environment Rooms.

[OSHPD 1, 2, 3, 4 & 5] *Prior to acceptance of the rooms, all mechanical systems shall be tested, balanced, and operated to demonstrate to the owner or designated representative that the installation and performance of the systems conform to design intent. All testing and balancing shall be performed by a qualified independent agency certified by the Associated Air Balance Council (AABC): the National Environmental Balancing Bureau (NEBB); or the Testing, Adjusting and Balancing Bureau (TABB). Air balance testing shall include a pressure test at all doors serving the isolation and ante rooms.*

Air balance testing shall include a pressure test at all doors serving the isolation, protective environment, and ante rooms to provide the directional pressure relationships in Section 416.1.

TABLE 4-A
PRESSURE RELATIONSHIP AND VENTILATION REQUIREMENTS FOR GENERAL ACUTE CARE HOSPITALS, SKILLED NURSING FACILITIES, INTERMEDIATE CARE FACILITIES, ~~CORRECTIONAL TREATMENT CENTERS,~~ OUTPATIENT FACILITIES, ~~AND~~ LICENSED CLINICS, CORRECTIONAL TREATMENT CENTERS, AND ACUTE PSYCHIATRIC HOSPITALS [OSHPD 1, 2, 3, 4 & 5]

Function of Space (ee)	Pressure Relationship (*d*)(n)	Minimum Outdoor ach	Minimum Total ach	Exhausted Directly to Outdoors (j)	Recirculated Room Units (a)	Unoccupied Turndown	Design Relative Humidity (k), %	Design Temperature (l), °F/°C
NURSING UNITS AND OTHER PATIENT CARE AREAS								
All anteroom *(1224.14.3.3)* (u)	(e)	NR	10	Yes	No	~~Yes~~ *No*	NR	NR
All room *(1224.14.3)* (u)	Negative	2	12	Yes	No	~~Yes~~ *No*	Max 60	70-75/21-24
All treatment/exam room (1224.4.4.1.3)	*Negative*	*2*	*12*	*Yes*	*No*	*No*	*max 60*	*70-75/21-24*
Cesarean Delivery room *(1224.32.3.1.1)* (m), (o)	Positive	4	20	NR	No	Yes	20-60	68-75/20-24
~~Combination Afl/PE anteroom *(FGI 2.2-2.2.4.5)*~~	~~(e)~~	~~NR~~	~~10~~	~~Yes~~	~~No~~	~~No~~	~~NR~~	~~NR~~
~~Combination All/PE room *(FGI 2.2-2.2.4.5)*~~	~~Positive~~	~~2~~	~~12~~	~~Yes~~	~~No~~	~~No~~	~~Max 60~~	~~70-75/21-24~~
~~Continued care nursery *(FGI 2.2-2.10.3.2)*~~	~~N/R~~	~~2~~	~~6~~	~~NR~~	~~No~~	~~Yes~~	~~30-60~~	~~72-78/22-26~~
Delivery room (1224.32.3.2) (m), (o)	*Positive*	*4*	*20*	*NR*	*No*	*Yes*	*20-60*	*68-75/20-24*
Emergency department exam/treatment room *(1224.33.3.6)* (p)	NR	2	6	NR	NR	Yes (ff)	Max 60	70-75/21-24
Emergency department human decontamination (1224.33)	Negative	2	12	Yes	No	~~Yes (fl)~~ *No*	NR	NR
Emergency department public waiting area (1224.33.3.5)	Negative	2	12	Yes (q)	NR	~~Yes (fl)~~ *No*	Max 65	70-75/21-24
Emergency department trauma/resuscitation room *(1224.33.3.7)* (c)	Positive	3	15	NR	No	Yes	20-60	70-75/21-24
Emergency service triage area *(1224.33.3.3)*	Negative	2	12	Yes (q)	NR	~~Yes (fl)~~ *No*	Max 60	70-75/21-24
Fast-track area (1224.33.4.2)	*NR*	*2*	*6*	*NR*	*NR*	*Yes*	*NR*	*70-75/21-24*
Infusion room (1224.39.4.2.3)	*Positive*	*2*	*6*	*NR*	*NR*	*Yes*	*NR*	*70-75/21-24*
~~Critical~~*Intensive* care patient ~~care station~~*space (1224.29.1.2)* (gg)	NR	2	6	NR	No	Yes	30-60	70-75/21-24
Intermediate care patient room *(1224.38)* (s)	NR	2	6	NR	NR	Yes	Max 60	70-75/21-24
Labor/delivery/recovery (LDR) *(1224.32.3.7)* (s)	NR	2	6	NR	NR	Yes	Max 60	70-75/21-24
Labor/delivery/recovery/postpartum (LDRP) (1224.32.3.7) (s)	NR	2	6	NR	NR	Yes	Max 60	70-75/21-24
Lactation (1224.32.5.1.3)	*NR*	*2*	*6*	*NR*	*NR*	Yes	*NR*	*70-75/21-24*
Laser eye room *(1224)*	Positive	3	15	NR	No	Yes	20-60	70-75/21-24
~~Neonatal~~*Newborn* intensive care *(1224.29.2.6)*	Positive	2	6	NR	No	Yes	30-60	72-78/22-26

Table 4-B

AREA DESIGNATION	NIMUM NUMBER OF FILTER BANKS	FILTER ECIENCY % (MINIMUM ECIENCY REPORTING VALUE MERV) 56 FILTER ~~BANK~~LOCATION		
		NO. [1]	NO. 2[1]	~~NO. 3~~A.T.D.[2]
Orthopedic operating room, bone marrow transplant operating room, organ transplant operating room, NICU formula preparation room, NICU treatment area/room	3	30%	90%	9.97% [34]
		(8)	(14)	~~17)~~ HEPA[3]
Protective environment rooms	3	30%	90%	9.97% [45]
		(8)	14)	~~(17)~~HEPA[3]

1 Based on ASHRAE 52.2, T.D. –Terminal Device

2 ~~Based on DOP test in accordance with MIL-STD-282 or based on ASHRAE 52.2.-~~ A.T.D. – Air terminal device serving the room or space.

3 HEPA filters are those filters that remove at least 99.97% of 0.3 micron sized particles at the rated flow in accordance with the testing methods of IEST RP CC001.3

~~3~~4 HEPA filters shall be located ~~at~~ in the air terminal device ~~outlet or other locations when approved by the Authority Having Jurisdiction~~.

~~4~~5 HEPA filters shall be located in the air terminal device of the room served. ~~supply duct which serves the positive-pressure isolation room or rooms may serve more than one supply outlet and more than one positive-pressure isolation room.~~ HEPA filter ~~or a filter with minimum efficiency reporting value (MERV) of 17~~ installation shall be designed and equipped to permit safe removal, disposal and replacement of filters.

~~5~~6 The numbers in parentheses represent MERV rating based on ASHRAE 52.2.

~~6~~7. Additional prefilters with a minimum efficiency of MERV 8 may be used to reduce maintenance for filters.

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California Plumbing Code, Part 5
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Ch. 2 - Definitions

221.0 – S –

. . .

Scrub Sink [OSHPD 1, 2, 3, 4 & 5]. *Is a sink used to wash and scrub the hands and arms during the septic preparation for surgery and equipped with a supply spout and controls. ~~as required for a handwashing fixture~~ that do not involve contact with the upper extremities. Sensor operated fixtures shall be capable of functioning during loss of normal power. Single-lever wrist blades shall not be permitted except for the temperature pre-set valve.*

Scrub Sink [OSHPD 1, 2, 3, 4 & 5]. *Is a sink used to wash and scrub the hands and arms during the septic preparation for surgery and equipped with a supply spout ~~and controls~~ as required for a handwashing fixture. The scrub sink shall be trimmed with foot, knee or electronic sensor controls that do not involve contact with the upper extremities. Sensor operated fixtures shall be capable of functioning during loss of normal power. Single-lever wrist blades shall not be permitted except for the temperature pre-set valve.*

604.0 Materials

604.0 Materials.

604.1 Pipe, Tube, and Fittings. Pipe, tube, fittings, solvent cement, thread sealants, solders, and flux used in potable water systems intended to supply drinking water shall comply with NSF 61. Where pipe fittings and valves are made from copper alloys containing more than 15 percent zinc by weight and are used in plastic piping systems, they shall be resistant to dezincification and stress corrosion cracking in compliance with NSF 14.

Materials used in the water supply system, except valves and similar devices, shall be of a like material, except where otherwise approved by the Authority Having Jurisdiction. Materials for building water piping and building supply piping shall comply with the applicable standards referenced in Table 604.1.

Exception: [OSHPD 1, 2, 3, 4 & 5] *Use of CPVC is not permitted for potable water applications.* ~~*under authority of the Office of Statewide Health Hospital Planning and Development.*~~