

ENVELOPE MANDATORY MEASURES: NONRESIDENTIAL ENV-MM

Project Name: 48 MICRO UNIT - 4060 OREGON STREET, SAN DIEGO, CALIFORNIA Date: 5/29/2020

DESCRIPTION

Building Envelope Measures:

- §110.8(a): Installed insulating material shall have been certified by the manufacturer to comply with the California Quality Standards for insulating material, Title 20 Chapter 4, Article 3.
- §110.8(c): All Insulating Materials shall be installed in compliance with the flame spread rating and smoke density requirements of Sections 2602 and 707 of Title 24, Part 2.
- §110.8(g): Heated slab floors shall be insulated according to the requirements in Table 110.8-A.
- §110.7(a): All Exterior Joints and openings in the building that are observable sources of air leakage shall be caulked, gasketed, weatherstripped or otherwise sealed.
- §110.6(a): Manufactured fenestration products and exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft.² of window area, 0.3 cfm/ft.² of door area for residential doors, 0.3 cfm/ft.² of door area for nonresidential single doors (swinging and sliding), and 1.0 cfm/ft.² for nonresidential double doors (swinging).
- §110.6(a): Fenestration U-factor shall be rated in accordance with NFRC 100, or the applicable default U-factor.
- §110.6(a): Fenestration SHGC shall be rated in accordance with NFRC 200, or NFRC 100 for site-built fenestration, or the applicable default SHGC.
- §110.6(b): Site Constructed Doors, Windows and Skylights shall be caulked between the unit and the building, and shall be weatherstripped (except for unframed glass doors and fire doors).
- §120.7(a): The opaque portions of the roof/ceiling that separates conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-Factor requirements as follows:
Metal Building- The weighted average U-factor of the roof assembly shall not exceed 0.098.
Wood Framed and Others- The weighted average U-factor of the roof assembly shall not exceed 0.075.
 The opaque portions of walls that separate conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-factor as follows:
Metal Building- The weighted average U-factor of the wall assembly shall not exceed 0.113.
Metal Framed- The weighted average U-factor of the wall assembly shall not exceed 0.151.
Light Mass Walls- A 6 inch or greater Hollow Core Concrete Masonry Unit shall have a U-factor not to exceed 0.440.
Heavy Mass Walls- An 8 inch or greater Hollow Core Concrete Masonry Unit shall have a U-factor not to exceed 0.690.
Wood Framed and Others- The weighted average U-factor of the wall assembly shall not exceed 0.110.
Spandrel Panels and Opaque Curtain Wall- The weighted average U-factor of the spandrel panels and opaque curtain wall assembly shall not exceed 0.280.
Demising Walls- The opaque portions of framed demising walls shall meet the requirements of Item A or B below:
 A. Wood framed walls shall be insulated to meet a U-factor not greater than 0.099.
 B. Metal Framed walls shall be insulated to meet a U-factor not greater than 0.151.
- §120.7(b): The opaque portions of floors and soffits that separate conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-Factor requirements as follows:
Raised Mass Floors- Shall have a minimum of 3 inches of lightweight concrete over a metal deck or the weighted average U-factor of the floor assembly shall not exceed 0.269.
Other Floors-The weighted average U-factor of the floor assembly shall not exceed 0.071.

MECHANICAL MANDATORY MEASURES: NONRESIDENTIAL MECH-MM

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Equipment and System Efficiencies

- §111: Any appliance for which there is a California standard established in the Appliance Efficiency Regulations will comply with the applicable standard.
- §115(a): Fan type central furnaces shall not have a pilot light.
- §123: Piping, except that conveying fluids at temperatures between 60 and 105 degrees Fahrenheit, or within HVAC equipment, shall be insulated in accordance with Standards Section 123.
- §124: Air handling duct systems shall be installed and insulated in compliance with Sections 601, 602, 603, 604, and 605 of the CMC Standards.

Controls

- §122(e): Each space conditioning system shall be installed with one of the following:
 1A. Each space conditioning system serving building types such as offices and manufacturing facilities (and all others not explicitly exempt from the requirements of Section 112 (d)) shall be installed with an automatic time switch with an accessible manual override that allows operation of the system during off-hours for up to 4 hours. The time switch shall be capable of programming different schedules for weekdays and weekends and have program backup capabilities that prevent the loss of the device's program and time setting for at least 10 hours if power is interrupted; or
 1B. An occupancy sensor to control the operating period of the system; or
 1C. A 4-hour timer that can be manually operated to control the operating period of the system.
 2. Each space conditioning system shall be installed with controls that temporarily restart and temporarily operate the system as required to maintain a setback heating and/or a setup cooling thermostat setpoint.
- §122(g): Each space conditioning system serving multiple zones with a combined conditioned floor area more than 25,000 square feet shall be provided with isolation zones. Each zone: shall not exceed 25,000 square feet; shall be provided with isolation devices, such as valves or dampers that allow the supply of heating or cooling to be setback or shut off independently of other isolation areas; and shall be controlled by a time control device as described above.
- §122(c): Thermostats shall have numeric setpoints in degrees Fahrenheit (F) and adjustable setpoint stops accessible only to authorized personnel.
- §122(b): Heat pumps shall be installed with controls to prevent electric resistance supplementary heater operation when the heating load can be met by the heat pump alone.
- §122(a&b): Each space conditioning system shall be controlled by an individual thermostat that responds to temperature within the zone. Where used to control heating, the control shall be adjustable down to 55 degrees F or lower. For cooling, the control shall be adjustable up to 85 degrees F or higher. Where used for both heating and cooling, the control shall be capable of providing a deadband of at least 5 degrees F within which the supply of heating and cooling is shut off or reduced to a minimum.

Ventilation

- §121(e): Controls shall be provided to allow outside air dampers or devices to be operated at the ventilation rates as specified on these plans.
- §122(f): All gravity ventilating systems shall be provided with automatic or readily accessible manually operated dampers in all openings to the outside, except for combustion air openings.
- §121(f): Ventilation System Acceptance. Before an occupancy permit is granted for a newly constructed building or space, or a new ventilating system serving a building or space is operated for normal use, all ventilation systems serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.

Service Water Heating Systems

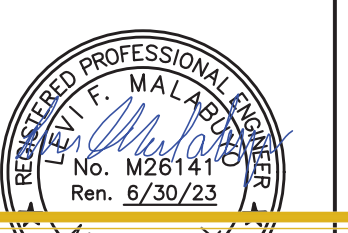
- §113(c) Installation
 3. Temperature controls for public lavatories. The controls shall limit the outlet Temperature to 110°F.
 2. Circulating service water-heating systems shall have a control capable of automatically turning off the circulating pump when hot water is not required.

REV	DESCRIPTION	DATE
△	DESIGN CHANGES	02/23/22
△	FC COMMENTS	11/22/22
△	FC COMMENTS	12/22/22

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This set of plans and specifications shall be kept on the site of the structure or work at all times during which work authorized by these plans is in progress, and shall be made available to city officials upon request. It is unlawful to change, modify, or alter the approved plans and specifications without the approval of the Building Official. The stamping of these plans and specifications SHALL NOT be held to permit or approve the violation of any City, County, State, or Federal laws, or restrictions.

MECHANICAL PERMITS
 8/20/2021
 PRJ-1045942
 Nikla Stamenkovic

JOB NO: B1910-AA031
 DRAWN: ME
 CHECKED: CZ
 SCALE: NONE
 DATE: 10.21.2021

M0.9