COM*check* Software Version 4.1.5.1 **Mechanical Compliance Certificate**

Project Information

Energy Code: 90.1 (2016) Standard **Project Title:** Terrace Glen Apartments

Location: Portland, Oregon

Climate Zone:

Project Type: **New Construction**

Construction Site: 9640 SW Greenburg Tigard, Or, OR

Owner/Agent: Jacobs Heating Portland, OR (503) 234-7331 Designer/Contractor: Mark Denyer MFIA CONSULTING ENGINEERS 2007 ASH ST. PORTLAND, OR 97214 503 234 0548

Mechanical Systems List

Quantity System Type & Description

MAU-1 (Single Zone):

Heating: 1 each - Central Furnace, Gas, Capacity = 250 kBtu/h

Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et

Cooling: 1 each - Split System (CU-1), Capacity = 180 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer exception: Low

Proposed Efficiency = 12.50 EER, Required Efficiency: 10.80 EER + 12.2 IEER

Fan System: MAU-1 -- Compliance (Motor nameplate HP method) : Passes

FAN 1 Supply, Constant Volume, 5235 CFM, 5.0 motor nameplate hp, 0.0 fan efficiency grade

MAU-2 (Single Zone):

Heating: 1 each - Central Furnace, Gas, Capacity = 200 kBtu/h

Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et (or 78% AFUE)

Cooling: 1 each - Split System (CU-1), Capacity = 120 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer exception: Low

Capacity Residential

Proposed Efficiency = 13.40 EER, Required Efficiency: 11.00 EER + 12.7 IEER Fan System: MAU-1 -- Compliance (Motor nameplate HP method): Passes

FAN 1 Supply, Constant Volume, 5235 CFM, 5.0 motor nameplate hp, 0.0 fan efficiency grade

HP-1 (Single Zone):

Split System Heat Pump

Heating Mode: Capacity = 36 kBtu/h,

Proposed Efficiency = 8.50 HSPF, Required Efficiency = 8.20 HSPF

Cooling Mode: Capacity = 36 kBtu/h,

Proposed Efficiency = 14.00 SEER, Required Efficiency: 14.00 SEER Fan System: FC-1,2&7 -- Compliance (Motor nameplate HP method): Passes

FAN 2 Supply, Constant Volume, 1200 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade

HP-2 (Single Zone):

Split System Heat Pump

Heating Mode: Capacity = 36 kBtu/h,

Proposed Efficiency = 8.50 HSPF, Required Efficiency = 8.20 HSPF

Cooling Mode: Capacity = 36 kBtu/h,

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Quantity System Type & Description

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Proposed Efficiency = 14.00 SEER, Required Efficiency: 14.00 SEER
      Fan System: FC-1,2&7 -- Compliance (Motor nameplate HP method): Passes
        FAN 2 Supply, Constant Volume, 1200 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade
      HP-3 (Single Zone):
      Split System Heat Pump
      Heating Mode: Capacity = 24 kBtu/h.
         Proposed Efficiency = 10.00 HSPF, Required Efficiency = 8.20 HSPF
      Cooling Mode: Capacity = 24 kBtu/h,
         Proposed Efficiency = 20.00 SEER, Required Efficiency: 14.00 SEER
      Fan System: FC-3,6&8 -- Compliance (Motor nameplate HP method): Passes
       Fans:
        FAN 3 Supply, Constant Volume, 800 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade
1
      HP-4 (Single Zone):
      Split System Heat Pump
      Heating Mode: Capacity = 12 kBtu/h,
         Proposed Efficiency = 13.00 HSPF, Required Efficiency = 8.20 HSPF
      Cooling Mode: Capacity = 12 kBtu/h,
         Proposed Efficiency = 25.50 SEER, Required Efficiency: 14.00 SEER
      Fan System: HP-4&5 -- Compliance (Motor nameplate HP method): Passes
       Fans:
        FAN 4 Supply, Constant Volume, 400 CFM, 0.1 motor nameplate hp, 0.0 fan efficiency grade
      HP-5 (Single Zone):
      Split System Heat Pump
      Heating Mode: Capacity = 12 kBtu/h,
         Proposed Efficiency = 13.00 HSPF, Required Efficiency = 8.20 HSPF
      Cooling Mode: Capacity = 12 kBtu/h,
         Proposed Efficiency = 25.50 SEER, Required Efficiency: 14.00 SEER
      Fan System: HP-4&5 -- Compliance (Motor nameplate HP method): Passes
       Fans:
        FAN 4 Supply, Constant Volume, 400 CFM, 0.1 motor nameplate hp, 0.0 fan efficiency grade
1
      HP-6 (Single Zone):
      Split System Heat Pump
      Heating Mode: Capacity = 18 kBtu/h,
         Proposed Efficiency = 13.00 HSPF, Required Efficiency = 8.20 HSPF
      Cooling Mode: Capacity = 18 kBtu/h,
         Proposed Efficiency = 19.00 SEER, Required Efficiency: 14.00 SEER
      Fan System: FC-3,6&8 -- Compliance (Motor nameplate HP method): Passes
        FAN 3 Supply, Constant Volume, 800 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade
      HP-7 (Single Zone):
      Split System Heat Pump
      Heating Mode: Capacity = 36 kBtu/h,
         Proposed Efficiency = 8.50 HSPF, Required Efficiency = 8.20 HSPF
      Cooling Mode: Capacity = 36 kBtu/h,
         Proposed Efficiency = 14.00 SEER, Required Efficiency: 14.00 SEER
      Fan System: FC-1,2&7 -- Compliance (Motor nameplate HP method): Passes
       Fans:
        FAN 2 Supply, Constant Volume, 1200 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade
      HP-8 (Single Zone):
      Split System Heat Pump
      Heating Mode: Capacity = 18 kBtu/h,
         Proposed Efficiency = 8.20 HSPF, Required Efficiency = 8.20 HSPF
      Cooling Mode: Capacity = 18 kBtu/h,
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Quantity System Type & Description

Proposed Efficiency = 14.00 SEER, Required Efficiency: 14.00 SEER Fan System: FC-3,6&8 -- Compliance (Motor nameplate HP method): Passes

Fans

FAN 3 Supply, Constant Volume, 800 CFM, 0.3 motor nameplate hp, 0.0 fan efficiency grade

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2016) Standard requirements in COMcheck Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklis

Mark Denyer	man Dorger	6-1-20
Name - Title	Signature	Date

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COMcheck Software Version 4.1.5.1 Inspection Checklist

Energy Code: 90.1 (2016) Standard

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 6.4.4.2.1, 6.7.2 [PR2] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6] ²	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.7.2.4 [PR5] ¹	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft2.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
6.4.3.7 [FO9] ³	Freeze protection and snow/ice melting system sensors for future connection to controls.	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.1.4, 6.4.1.5 [ME1] ²	HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1.	Efficiency:	Efficiency:	□Complies □Does Not □Not Observable	See the Mechanical Systems list for values.
6.4.3.4.1 [ME3] ³	Stair and elevator shaft vents have motorized dampers that automatically close.			□Not Applicable □Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.3.4.2, 6.4.3.4.3 [ME4] ³	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.3.4.5 [ME39] ³	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.4.3.4.4 [ME5] ³	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.			□Complies □Does Not □Not Observable □Not Applicable	Exception: HVAC systems intended to operate continuously.
6.4.3.8 [ME6] ¹	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.2.1 [ME40] ²	DX cooling systems >= 75 kBtu/h (>= 65 kBtu/h effective 1/2016) and chilled-water and evaporative cooling fan motor hp >= ½ designed to vary supply fan airflow as a function of load and comply with operational requirements.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. See the Mechanical Systems list for values.
6.4.4.1.1 [ME7] ³	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.4.1.2 [ME8] ²	HVAC ducts and plenums insulated per Table 6.8.2. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	R	R	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.4.4.1.3 [ME9] ²	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	in.	in.	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.

1 High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.4.4.1.4 ME41] ³	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.			□Complies □Does Not	Exception: Requirement does not apply.
	parieis have insulation >= 14-5.5.			□Not Observable □Not Applicable	i
5.4.4.2.1 ME10] ²	Ducts and plenums having pressure class ratings are Seal			□Complies □Does Not	Requirement will be met.
	Class A construction.			□Not Observable □Not Applicable	
.8.1-15, .8.1-16 ME110] ²	Electrically operated DX-DOAS units meet requirements per Tables 6.8.1-15 or 6.8.1-16.			□Complies □Does Not	Requirement will be met.
MLIIOJ	Tables 0.8.1-13 01 0.8.1-10.			□Not Observable □Not Applicable	
.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	
5.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage testing.			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	
6.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	
.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	
5.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	
.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	
.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	
.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	
.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	1 1 1 1 1
.4.4.2.2 ME11] ³	Ductwork operating >3 in. water column requires air leakage			□Complies □Does Not	Requirement will be met.
	testing.			□Not Observable □Not Applicable	

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3 Low Impact (Tier 3)

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2 Medium Impact (Tier 2)

1 High Impact (Tier 1)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.2.3 [ME19] ³	Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: NA
6.5.2.4.1 [ME68] ³	Humidifiers with airstream mounted preheating jackets have preheat auto-shutoff value set to activate when humidification is not required.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.2.4.2 [ME69] ³	Humidification system dispersion tube hot surfaces in the airstreams of ducts or airhandling units insulated >= R-0.5.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.2.5 [ME70] ³	Preheat coils controlled to stop heat output whenever mechanical cooling, including economizer operation, is active.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: NA
6.5.2.6 [ME106] ³	Units that provide ventilation air to multiple zones and operate in conjunction with zone heating and cooling systems are prevented from using heating or heat recovery to warm supply air above 60°F when representative building loads or outdoor air temperature indicate that most zones demand cooling.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

ı						
	1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.6 [ME72] ²	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.3.4 [ME108] ²	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.

Section #	Mechanical Rough-In	Plans Verified	Field Verified	Complies?	Comments/Assumptions
& Req.ID	Inspection	Value	Value		,,
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section #	Mechanical Rough-In	Plans Verified	Field Verified	Complies?	Comments/Assumptions
& Req.ID	Inspection	Value	Value		,,
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section #	Mechanical Rough-In	Plans Verified	Field Verified	Complies?	Comments/Assumptions
& Req.ID	Inspection	Value	Value		,,
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

ı						
	1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.7 [ME109] ²	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.3.3 [ME42] ³	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			□Complies □Does Not □Not Observable	Exception: Requirement does not apply. See the Mechanical Systems list
6.5.3.3 [ME42] ³	Multiple zone VAV systems with DDC of individual zone boxes			□Not Applicable □Complies □Does Not	for values. Exception: Requirement does not apply.
	have static pressure setpoint reset controls.			□Not Observable □Not Applicable	See the Mechanical Systems list for values.
6.5.3.3 [ME42] ³	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			□Complies □Does Not □Not Observable	Exception: Requirement does not apply. See the Mechanical Systems list
6.5.3.3 [ME42] ³	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			□Not Applicable □Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply. See the Mechanical Systems list for values.
6.5.3.3 [ME42] ³	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint			□Complies □Does Not □Not Observable	Exception: Requirement does not apply.
6.5.3.3	reset controls. Multiple zone VAV systems with			□Not Observable □Not Applicable □Complies	See the Mechanical Systems list for values. Exception: Requirement
[ME42] ³	DDC of individual zone boxes have static pressure setpoint reset controls.			□ Does Not □ Not Observable □ Not Applicable	does not apply. See the Mechanical Systems list for values.
6.5.3.3 [ME42] ³	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint			□Complies □Does Not	Exception: Requirement does not apply.
	reset controls.			□Not Observable □Not Applicable	See the Mechanical Systems list for values.
6.5.3.3 [ME42] ³	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable	Exception: Requirement does not apply. See the Mechanical Systems list
6.5.3.3 [ME42] ³	Multiple zone VAV systems with DDC of individual zone boxes			□Not Applicable □Complies □Does Not	for values. Exception: Requirement does not apply.
	have static pressure setpoint reset controls.			□Not Observable □Not Applicable	See the Mechanical Systems list for values.

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2 Medium Impact (Tier 2)

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1 High Impact (Tier 1)

3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.3 [ME42] ³	Multiple zone VAV systems with DDC of individual zone boxes			□Complies □Does Not	Exception: Requirement does not apply.
	have static pressure setpoint reset controls.			□Not Observable □Not Applicable	See the Mechanical Systems list for values.
5.5.4.2 [ME25] ³	HVAC pumping systems with >= 3 control values designed for variable fluid flow (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.6.1 [ME56] ¹	Exhaust air energy recovery on systems meeting Tables 6.5.6.1-1, and 6.5.6.1-2.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.7.1 [ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			Complies Does Not Not Observable Not Applicable	Requirement will be met.
5.5.7.1 ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.7.1 [ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.7.1 [ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.7.1 [ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.7.1 [ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.7.1 [ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.7.1 [ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

Section #	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
& Req.ID 6.5.7.1 [ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.7.1 [ME100] ²	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.7.2.1 [ME32] ²	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.7.2.4 [ME49] ³	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.8.1 [ME34] ²	Unenclosed spaces that are heated use only radiant heat.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.9 [ME35] ¹	Hot gas bypass limited to: <=240 kBtu/h - 15% >240 kBtu/h - 10%			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: NA
6.5.9 [ME35] ¹	Hot gas bypass limited to: <=240 kBtu/h - 15% >240 kBtu/h - 10%			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: NA
6.4.3.9 [ME63] ²	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.5.10 [ME73] ³	Doors separating conditioned space from the outdoors have controls that disable/reset heating and cooling system when open.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

1 High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10] ²	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
8.4.3 [EL11] ²	New buildings have electrical energy use measurement devices installed. Where tenant spaces exist, each tenant is monitored separately. In buildings with a digital control system the energy use is transmitted to to control system and displayed graphically.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
10.4.1 [EL9] ²	Electric motors meet requirements where applicable.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
6.4.3.1.2 [FI3] ³	Thermostatic controls have a 5 °F deadband.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.2 [FI20] ³	Temperature controls have setpoint overlap restrictions.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.3.1 [FI21] ³	HVAC systems equipped with at least one automatic shutdown control.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.3.2 [FI22] ³	Setback controls allow automatic restart and temporary operation as	□Complies □Does Not	Requirement will be met.
	required for maintenance.	□Not Observable □Not Applicable	
[FI5] ³	supplemental electric resistance heat	□Complies □Does Not	Requirement will be met.
	from coming on when not needed.		
6.4.3.5 [FI5] ³		\square Complies \square Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.5 [FI5] ³	supplemental electric resistance heat	\square Complies \square Does Not	Requirement will be met.
	from coming on when not needed.	□Not Observable □Not Applicable	
6.4.3.5 [FI5] ³	supplemental electric resistance heat	□Complies □Does Not	Requirement will be met.
	from coming on when not needed.	□Not Observable □Not Applicable	
6.4.3.5 [FI5] ³		□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.5 [FI5] ³	supplemental electric resistance heat from coming on when not needed.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.5 [FI5] ³	supplemental electric resistance heat from coming on when not needed.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	
6.4.3.5 [FI5] ³	supplemental electric resistance heat from coming on when not needed.	□Complies □Does Not	Requirement will be met.
		□Not Observable □Not Applicable	

1 High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
6.4.3.6 [FI6] ³	When humidification and dehumidification are provided to a zone, simultaneous operation is prohibited. Humidity control prohibits the use of fossil fuel or electricity to produce RH > 30% in the warmest zone humidified and RH < 60% in the coldest zone dehumidified.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: NA
6.7.2.1 [FI7] ³	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.7.2.2 [FI8] ³	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.7.2.3 [FI9] ¹	An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 ft2 of conditioned area.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.7.2.4 [FI10] ¹	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
10.4.3 [FI24] ²	Elevators are designed with the proper lighting, ventilation power, and standby mode.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

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