

COMMERCIAL ENERGY (MECHANICAL) PLAN REVIEW CHECKLIST

Use this checklist for all IBC-scope buildings other than Group R-2, R-3, and R-4 three stories or less

COMcheck

Heading shows COMcheck version 4.1.1 or higher

Project Information

Energy Code = 2018 IECC or ASHRAE 90.1 (2016)

Additional Efficiency Package

C406. Verify the selected Additional Efficiency Package is specified on the plans

Mechanical Systems List

The quantity, type, and capacity of listed HVAC systems matches the systems described in the equipment schedule(s)

For each listed HVAC system, the "proposed efficiency" is not greater than the efficiency listed in the equipment schedule

Fan systems says, "Passes"

All fans associated with a fan system are listed and the type, airflow volume (CFM), motor nameplate hp or bhp, and fan efficiency grade match the fans listed in the fan schedule(s)

Mechanical Compliance Statement

Compliance statement is signed and dated by the designer

Inspection Checklists

COMcheck inspection checklists are provided and contain references to locations on plans/specs

Additional Mechanical Compliance Items

Use the applicant-provided COMcheck Inspection Checklists to verify additional mechanical compliance items not included on the COMcheck Mechanical Compliance Certificate OR use the checklists below.

GENERAL

- Complies
 Does not comply
 N/A

C402.5.3. Equipment where combustion air is supplied through openings in an exterior wall is located outside the conditioned space or in an insulated and air sealed equipment room separating it from adjacent conditioned space

- Complies
 Does not comply
 N/A

IMC 403.1.1. IMC minimum ventilation calculations for each space are clearly represented. (For example, a table showing each space type along with floor area, average occupancy load, and minimum mechanical ventilation rates.)

- Complies
 Does not comply
 N/A

C403.1.1. (Mandatory) ASHRAE 183 design heating and cooling load calculation report is present and the specified equipment output capacity is not larger than the next nominal size above the design loads

- Complies
 Does not comply
 N/A

C403.3.2. (Mandatory) Construction documents clearly indicate the heating and cooling equipment type, capacity, and efficiency rating in the terms used in Tables C403.3.2 (1-9) and heating and cooling equipment efficiencies are \geq the appropriate value in Tables C403.3.2 (1-9).

SYSTEMS COMMISSIONING

Total building cooling capacity is $\leq 480,000$ Btu/h (40 tons) and combined heating and service hot water capacity is $\leq 600,000$ Btu/h.

Complies

Does not comply

N/A

Notes indicate provisions for mechanical system commissioning and completion, including the name of an approved commissioning authority.

Complies

Does not comply

N/A

Notes indicate a system balancing report and final commissioning report will be provided to the owner within 90 days of CO.

ECONOMIZERS

Complies

Does not comply

N/A

C403.5. Economizer is present on each cooling system or exemption/exception is cited and verified

MECHANICAL SYSTEMS SERVING MULTIPLE ZONES

Project design does not include mechanical systems serving multiple zones. Skip to the next section.

Complies

Does not comply

N/A

C403.6.1. System is a variable air volume (VAV) system

VENTILATION SYSTEMS

Complies

Does not comply

N/A

C403.2.2. (Mandatory) Minimum ventilation calculations are correct, and where provided, the ventilation system is capable of operating at the IMC-minimum rate.

KITCHEN EXHAUST SYSTEMS

Project scope does not include kitchen exhaust systems. Skip to the next section.

Complies

Does not comply

N/A

C408.7.5. (Mandatory) Kitchen exhaust systems do not have >10% of replacement air introduced directly into the hood (no short-circuit systems)

Complies

Does not comply

N/A

C408.7.5. (Mandatory) Spaces with kitchen exhaust systems do not have a conditioned air supply exceeding the greater of the following:

1. The ventilation rate required to meet the space heating or cooling load
2. Hood flow minus available transfer air flow

Complies

Does not comply

N/A

C408.7.5. (Mandatory) Where the total exhaust hood airflow rate exceeds 5,000 cfm, each specified hood is a factory-built commercial exhaust hood and comply with UL 710, have a maximum exhaust rate not exceeding the values in Table C403.7.5, and either:

1. $\geq 50\%$ of all replacement air is transfer air
2. Demand ventilation systems are installed for $\geq 75\%$ of exhaust air and are configured to provide $\geq 50\%$ reduction in exhaust and transfer air flow rates
3. Energy recovery devices with a recovery effectiveness of $\geq 40\%$ are installed on $\geq 50\%$ of total exhaust airflow

FANS AND FAN CONTROL

HVAC design does not include fans (e.g. hydronic systems) or all fans are integral to equipment covered by the minimum efficiency requirements in Tables C403.3.2 (1-10). Skip to the next section.

Complies

Does not comply

N/A

Equipment schedule contains fan motor nameplate horsepower (hp) and brake horsepower (bhp) for each fan in each HVAC system.

REFRIGERATION EQUIPMENT PERFORMANCE

Project scope does not include commercial refrigerators or freezers. Skip to the next section.

Complies

Does not comply

N/A

C403.10. Refrigeration equipment type, application, and volume per Tables C403.10.1(1) and C403.10.2(2) shall be clearly indicated in a refrigeration equipment schedule and AHRI 1200 energy use in kWh/day is \leq the values in Tables C403.10.1(1) and C403.10.2(2).

DUCTS, PLENUMS, PIPING, AND OTHER HVAC ELEMENTS

Complies

Does not comply

N/A

C403.11.2.1. Duct pressure class is clearly indicated in the equipment schedule.