

Commercial 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

<input type="checkbox"/> Prescriptive	<input type="checkbox"/> COMcheck	<input type="checkbox"/> Performance modeling	<input type="checkbox"/> ENERGY STAR (R-2 only)
COMcheck			
<input checked="" type="checkbox"/>	Heading shows COMcheck version 4.1.1 or higher		
Project Information			
<input type="checkbox"/>	Energy Code = 2018 IECC or ASHRAE 90.1 (2016)		
Additional Efficiency Package			
<input type="checkbox"/>	C406. Verify the selected Additional Efficiency Package is specified on the plans		
Mechanical Systems List			
<input type="checkbox"/>	The quantity, type, and capacity of listed HVAC systems matches the systems described in the equipment schedule(s)		
<input type="checkbox"/>	For each listed HVAC system, the “proposed efficiency” is not greater than the efficiency listed in the equipment schedule(s)		
<input type="checkbox"/>	Fan systems says, “Passes”		
<input type="checkbox"/>	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			
<input type="checkbox"/>	Compliance statement is signed and dated by the designer		
Inspection Checklists			
<input type="checkbox"/>	COMcheck inspection checklists are provided and contain references to locations on plans/specs		
Additional Mechanical Compliance Items			
<input type="checkbox"/>	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	
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	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
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	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.)
<input type="checkbox"/> Complies	C403.1.1. (Mandatory) ASHRAE 183 design heating and cooling load calculation report is present and the specified equipment output

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<input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	capacity is not larger than the next nominal size above the design loads
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	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).

<h3 style="color: #4F81BD;">Systems Commissioning</h3>	
<input type="checkbox"/> 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.	
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	Notes indicate provisions for mechanical system commissioning and completion, including the name of an approved commissioning authority.
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	Notes indicate a system balancing report and final commissioning report will be provided to the owner within 90 days of CO.

<h3 style="color: #4F81BD;">Economizers</h3>	
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	C403.5. Economizer is present on each cooling system or exemption/exception is cited and verified

<h3 style="color: #4F81BD;">Mechanical systems serving multiple zones</h3>	
<input type="checkbox"/> Project design does not include mechanical systems serving multiple zones. Skip to the next section.	
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	C403.6.1. System is a variable air volume (VAV) system

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Ventilation Systems	
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	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	
<input type="checkbox"/> Project scope does not include kitchen exhaust systems. Skip to the next section.	
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	C408.7.5. (Mandatory) Kitchen exhaust systems do not have >10% of replacement air introduced directly into the hood (no short-circuit systems)
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	C408.7.5. (Mandatory) Spaces with kitchen exhaust systems do not have a conditioned air supply exceeding the greater of the following: <ol style="list-style-type: none"> 1. The ventilation rate required to meet the space heating or cooling load 2. Hood flow minus available transfer air flow
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	C408.7.5. (Mandatory) Where the <u>total exhaust hood airflow rate exceeds 5,000 cfm</u> , 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: <ol style="list-style-type: none"> 1. ≥50% of all replacement air is transfer air 2. Demand ventilation systems are installed for ≥75% of exhaust air and are configured to provide ≥50% reduction in exhaust and transfer air flow rates 3. Energy recovery devices with a recovery effectiveness of ≥40% are installed on ≥50% of total exhaust airflow

Fans and Fan Controls	
<input type="checkbox"/> 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.	
<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply <input type="checkbox"/> Not applicable	Equipment schedule contains fan motor nameplate horsepower (hp) and brake horsepower (bhp) for each fan in each HVAC system.

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Refrigeration Equipment Performance

Project scope does not include commercial refrigerators or freezers. [Skip to the next section.](#)

- Complies
- Does not comply
- Not applicable

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
- Not applicable

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