

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

Commercial Energy: Architectural Plan Review Checklist			
General			
<input type="checkbox"/>	A continuous building thermal envelope is represented on the construction drawings		
<input type="checkbox"/>	Typical cross sections clearly indicate insulation R-value, type, and material for each unique assembly type		
<input type="checkbox"/>	Plans clearly indicate all fenestration U-factors and solar heat gain coefficients		
<input type="checkbox"/>	Typical cross sections clearly indicate air barrier materials and location		
Air Leakage			
<input type="checkbox"/>	Notes indicate an air barrier method (Materials, Assemblies, or Whole Building Test) C402.5.1		
<input type="checkbox"/>	Exterior doors opening to spaces >3,000 ft ² have vestibules, revolving doors, or air curtains. Note: Doors adjacent to revolving doors must have vestibules or air curtains.		
	Areas with 15-ft high ceilings that are >2,500 ft ² : ≥ 50% of the floor area is in a daylight zone under a skylight (C402.4.2). Applies to: office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, conventions center, automotive service, manufacturing, non-refrigerated warehouses, retail store, distribution/sorting area, transportation, or workshop.		
Systems Completion and Commissioning			
<input type="checkbox"/>	Lighting functional testing – Construction drawings specify that the following items will be provided to the building owner or owner’s authorized agent within 90 days of receipt of the certificate of occupancy: <ul style="list-style-type: none"> a. Drawings that include the location and catalogue number of each lighting control; b. An operating and maintenance manual; c. A report of functional testing including results, deficiencies, and corrective actions 		
<input type="checkbox"/>	If mechanical systems commissioning is not specified, <u>total building</u> cooling capacity and heating capacity + service hot water capacity are clearly indicated.		
Buildings with ≥ 480,000 Btu/h cooling capacity or ≥ 600,000 Btu/h heating + water heating capacity			
<input type="checkbox"/>	Notes indicate provisions for mechanical system commissioning and completion, including the name of an approved commissioning authority		
<input type="checkbox"/>	Notes indicate a system balancing report and final commissioning report will be provided to the owner within 90 days of CO		
<input type="checkbox"/>	Compliance path is clearly noted on the plans or accompanying documentation. Otherwise, assume prescriptive (C406)		
<input type="checkbox"/> Prescriptive	<input type="checkbox"/> COMcheck		
Prescriptive Path (with no tradeoffs)			
<input type="checkbox"/>	Window area is ≤ 30% of above-grade wall area		
<input type="checkbox"/>	R-values on plans meet IECC Table C402.1.3 or ASHRAE 90.1 Table 5.5-4 for Climate Zone 4 for each assembly		
<input type="checkbox"/>	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Fenestration U-factors are less than or equal to the values in IECC Table C402.4</td> <td style="width: 50%;"> Fixed windows ≤ 0.38 Operable windows ≤ 0.45 Entrance doors ≤ 0.77 Skylights ≤ 0.50 </td> </tr> </table>	Fenestration U-factors are less than or equal to the values in IECC Table C402.4	Fixed windows ≤ 0.38 Operable windows ≤ 0.45 Entrance doors ≤ 0.77 Skylights ≤ 0.50
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<input type="checkbox"/>	Fenestration SHGCs are less than or equal to the values in IECC Table C402.4. If values exceed 0.36, applicant demonstrates window orientation and overhang projection factor.		
	One Additional Efficiency Package Option is indicated on the plans and specifications are shown or there is a reference to other plans (e.g. mechanical)		

COMcheck Envelope Compliance Certificate	
<input 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)
<input type="checkbox"/>	Location = Philadelphia, Pennsylvania
<input type="checkbox"/>	Vertical Glazing / Wall Area percentage seems reasonable compared to elevation drawings
<input type="checkbox"/>	Construction Site address matches the plans
Additional Efficiency Package	
<input type="checkbox"/>	At least one efficiency package option is listed, and construction documents show provisions for installation of this option
Building Area	
<input type="checkbox"/>	All activity types (e.g. office) are listed and floor areas match plans
Envelope Assemblies	
<input type="checkbox"/>	Compliance field says "PASSES"
<input type="checkbox"/>	Assembly types match plans and each unique assembly type is listed (including cantilevered floors, floors over garages, and bump-out ceilings)
<input type="checkbox"/>	Assembly R-values and fenestration U-factors match plans
<input type="checkbox"/>	Cavity insulation R-values are not listed in the Continuous R-value column
<input type="checkbox"/>	Certificate is signed by the person completing the report
<input type="checkbox"/>	Envelope inspection checklist provided and contain references to plans/spec page numbers

Commercial Energy: Mechanical Plan Review Checklist

Information on Construction Documents

<input type="checkbox"/>	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 C402.5.3
<input type="checkbox"/>	IMC minimum ventilation calculations for each space are clearly represented, and the ventilation system is capable of operating at the IMC-minimum rate.
<input type="checkbox"/>	In buildings >2 stories, air intakes, exhaust openings, and stairway/shaft vents have Class 1 motorized dampers C403.7.7
<input type="checkbox"/>	Compliance path is clearly noted on the plans or accompanying documentation. Otherwise, assume prescriptive.
<input type="checkbox"/>	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
<input type="checkbox"/>	Heating and cooling equipment efficiencies are \geq the appropriate values in IECC Tables C403.3.2 (1-9)
<input type="checkbox"/>	Total building cooling capacity, heating capacity, and service hot water capacity are clearly indicated
<input type="checkbox"/>	System does not include hot gas bypass or has variable capacity. Hot gas bypass does not exceed 50% of total capacity for systems \geq 240,000 and 25% for systems > 240,000.

Controls

	Heated or cooled vestibules: Turn off when 45°F outdoors and limit heating to 60°F and cooling to 85°F (C403.4.1.4)
	Hot water boilers: Outdoor setback control is present (C403.4.1.5)
	Off-hour controls: Thermostats configured to set back to 55°F heating and 85°F cooling and have automatic start (C403.4.2)

Buildings with \geq 480,000 Btu/h cooling capacity or \geq 600,000 Btu/h heating + water heating capacity

<input type="checkbox"/>	Notes indicate provisions for mechanical system commissioning and completion, including the name of an approved commissioning authority
<input type="checkbox"/>	Notes indicate a system balancing report and final commissioning report will be provided to the owner within 90 days of CO

Indicate the compliance path selected by the applicant and complete the appropriate section below

<input type="checkbox"/> Prescriptive	<input type="checkbox"/> COMcheck	<input type="checkbox"/> Performance modeling	<input type="checkbox"/> ENERGY STAR (apartments only)
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Prescriptive Path – Use associated plan review form

COMcheck

	HVAC systems: Number, type, and capacity matches equipment schedule
	COMcheck inspection checklists are provided and contain references for locations on plans/specs: plumbing rough-in, mechanical rough-in