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MECHANICAL CHECKLIST FOR PART J5 OF BCA 2015 – AIR-CONDITIONING & VENTILATION SYSTEMS

Property location:

Project description:

Job Reference Number:

Requirement	*Yes*	*No*	*N/A*
BCA PART J5.2 AIR-CONDITIONING AND VENTILATION SYSTEMS			
Control:			
▪ An air-conditioning system:	❑	❑	❑
▪ Must be capable of being deactivated when the building or part of the building served is not occupied; and	❑	❑	❑
▪ When serving more than one air-conditioning zone or area with different heating & cooling needs, must: ▪ thermostatically control the temperature in each zone or area; and ▪ not control the temperature by mixing actively heated air & actively cooled air; and ▪ limit reheating to not more than: ▪ for a fixed supply air rate, a 7.5 K rise in temperature; and ▪ for a variable supply air rate limit, a 7.5K rise in temperature at the nominal supply air rate that the supply air rate is respectively increased or decreased; and	❑	❑	❑
▪ Which provides the required mechanical ventilation, other than in process-related applications where humidity control is needed, must have an outdoor air economy cycle: ▪ In climate zones 2 or 3, when the air-conditioning system capacity is more than 50 kWr; or	❑	❑	❑
▪ In climate zones 4, 5, 6, 7 or 8, when the air-conditioning capacity unit capacity is more than 35 kWr; and	❑	❑	❑
▪ Which contains more than one water heater, chiller or coil, must be capable of stopping the flow of water to those not operating; and	❑	❑	❑
▪ Except for a packaged air-conditioning system, must have a variable speed fan when its supply air quantity is capable of being varied; and	❑	❑	❑
▪ When serving a sole-occupancy unit in a Class 3 building, must not operate when any external door of the sole-occupancy unit that opens to a balcony or the like, is open for more than 1 minute	❑	❑	❑
▪ When an air-conditioning system is deactivated, any motorised outside air and return dampers must close.	❑	❑	❑
▪ Compliance with the above must not adversely affect smoke hazard management measured and ventilation requirements.	❑	❑	❑

Requirement	*Yes*	*No*	*N/A*
Fans:			
▪ Fans of an air-conditioning system must comply with the requirements of **Specification J5.2a**	❑	❑	❑
Pumps:			
▪ An air-conditioning system, where water is circulated by pumping at more than 2 L/s, must be designed so that the maximum pump power to the pump complies with Table J5.2.	❑	❑	❑
▪ An air-conditioning system pump that is rated at more than 3kW of pump power and circulates water at more than 2 L/s must be capable of varying its speed in response to varying load.	❑	❑	❑
▪ A spray water pump of an air-conditioning system's closed circuit cooler or evaporative condenser must not use more than 150W of pump power for each L's of spray water circulated.	❑	❑	❑
Insulation:			
▪ The ductwork of an air-conditioning system must be insulated and sealed in accordance with Specification J5.2b.	❑	❑	❑
▪ Piping, vessels, heat exchangers and tanks containing heating or cooling fluid that are part of an air-conditioning system, other than those with insulation levels covered by MEPS, must be insulated in accordance with **Specification J5.2c**.	❑	❑	❑
Space heating:			
▪ A heater used for air-conditioning or as part of an air-conditioning system must comply with Specification J5.2d.	❑	❑	❑
Energy efficiency ratios:			
▪ Refrigerant chillers used as part of an air-conditioning system and packaged air conditioning equipment must comply with the requirements of **Specification J5.2e**.	❑	❑	❑
Time switches:			
▪ A time switch complying with Specification J6 must be provided to control:			
▪ An air conditioning system of more than 10kWr; and	❑	❑	❑
▪ A heater of more than 10 $kW_{heating}$ used for air-conditioning	❑	❑	❑
Exemptions apply where an air-conditioning system serves: ▪ only one sole-occupancy unit in a Class 2or 3 building; or ▪ a Class 4 part of a building; or ▪ only one sole-occupancy unit in a Class 9c building; or ▪ a building where air-conditioning or ventilation is needed for 24hr occupancy such as manufacturing process or emergency services.	❑	❑	❑

Requirement	*Yes*	*No*	*N/A*

BCA PART J5.3 MECHANICAL VENTILATION SYSTEMS

Control:

- A mechanical system, including one that is part of an air-conditioning system, except where the mechanical system serves only one sole-occupancy unit in a Class 2 building or serves only a Class 4 part of a building, must:
  - Be capable of being deactivated when the building or part of the building served by that system is not occupied; and ❑ ❑ ❑
  - When not serving a conditioned space: ❑ ❑ ❑
    - not exceed the minimum outdoor air quantity required by Part F4, where relevant, by more than 20%; and
    - In other than climate zone 2, where the number of square metres per person is not more than 1 as specified in D1.13 and the air flow rate is more than 1000 L/s, have: ❑ ❑ ❑
      - an energy reclaiming system that preconditions outside air; or
      - the ability to automatically modulate the mechanical ventilation required by Part F4 in proportion to the number of occupants ❑ ❑ ❑
- The requirements do not apply where: ❑ ❑ ❑
  - Additional unconditioned outside air supplied for free cooling or to balance process exhaust; or
  - Additional exhaust ventilation needed to balance the required mechanical ventilation, or ❑ ❑ ❑
  - An energy reclaiming system that preconditions outside air ❑ ❑ ❑

Fans:

- Fans of a mechanical ventilation system covered by control must comply with the requirements of Specification J5.2a ❑ ❑ ❑

Time Switches:

- A time switch complying with Specification J6 must be provided to control a mechanical ventilation system with an air flow rate of more than 1000 L/s. ❑ ❑ ❑
- The requirements do not apply to: ❑ ❑ ❑
  - A mechanical ventilation system that serves;
    - Only one sole-occupancy unit in a Class 2 or 3 building; or
    - A Class 4 part of a building; or
    - Only one sole-occupancy unit in a Class 9c building; or
  - A building where mechanical ventilation is needed for 24 hour occupancy. ❑ ❑ ❑

Requirement	*Yes*	*No*	*N/A*
BCA PART J5.4 MISCELLANEOUS EXHAUST SYSTEMS			
▪ A miscellaneous exhaust system with an air flow rate of more than 1000L/s, that is associated with equipment having a variable demand, must:			
▪ Be capable of stopping the motor when the system is not needed; and ▪ Have a variable speed fan or the like.	❑	❑	❑
▪ The requirements do not apply to:	❑	❑	❑
▪ A miscellaneous exhaust system in:			
▪ A sole-occupancy unit in a Class 2, 3 or 9c building; or ▪ A Class 4 part of a building; or ▪ Only one sole-occupancy unit in a Class 9c building; or			
▪ Where additional exhaust ventilation is needed to balance the required outside air for ventilation.	❑	❑	❑

STATEMENT OF COMPLIANCE:

Building practitioner:

Qualification /title:

Company:

I have reviewed the design (specifications, drawings and any supporting calculation), completed the attached checklist and certify that, if installed or carried out in accordance with the documentation referred to above, the air-conditioning and ventilation systems (as applicable) will comply with the BCA 2014 Section J5. I also confirm that I have appropriate qualification/expertise to assess the compliance of the air-conditioning and ventilation systems.

Signed: …… Dated: ……