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## MP 4.1 – SUSTAINABLE BUILDINGS

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**Purpose**

To ensure:

- (a) *class 1, class 2* buildings are energy and water efficient; and
- (b) the *electricity* supplied to each *meterable premises* is able to be measured appropriately.

**Commencement**

This version of Mandatory Part (MP) 4.1:

- (a) commences on 1 March 2010; and
- (b) replaces the version of MP 4.1 published on 1 January 2010.

**Application**

This part applies to the lawful carrying out of building work as indicated by ticks (✓) in the relevant columns in Table 1 below.

Note: Reference should also be made to sections 36, 37 and 61 of the *Building Act 1975*, which may affect the application of MP 4.1.

**Table 1 – Application of MP 4.1**

Application	Performance Requirements									
	1	2	3	4	5	6	7	8	9	10
Construction of <i>new class 1</i> buildings.	✓		✓		✓	✓	✓			
Construction of <i>new class 2</i> buildings.		✓	✓		✓	✓	✓	✓	✓	✓
<i>Renovation</i> of a <i>class 1</i> building.	✓		✓							
<i>Renovation</i> of a <i>sole-occupancy unit</i> in a <i>class 2</i> building.		✓	✓							
<i>Other renovation</i> of a <i>class 1</i> building.	✓		✓		✓	✓	✓*			
<i>Other renovation</i> of a <i>sole-occupancy unit</i> in a <i>class 2</i> building.		✓	✓		✓	✓	✓*			
<i>Installation</i> of an <i>air-conditioner</i> in a <i>class 1</i> or <i>class 2</i> building.				✓						
Construction of a <i>new class 5</i> building.								✓	✓	✓

\* **Note:** This applies to only the new work included in the plumbing approval. This is an applied provision under the *Standard Plumbing and Drainage Regulation 2003*

## Referral Agency

There is no referral agency for this part.

## Associated Requirements

- *Body Corporate and Community Management Act 1997*
- *Building Act 1975*
- Building Code of Australia (BCA)
- *Building Regulation 2006*
- *Electricity Act 1994*
- *Electricity Regulation 2006*
- *Electrical Safety Act 2002*
- *Electrical Safety Regulation 2002*
- *Integrated Planning Act 1997*
- *Plumbing and Drainage Act 2002*
- Plumbing Code of Australia
- *Standard Plumbing and Drainage Regulation 2003*
- *Water Efficiency Labelling and Standards Act 2005*
- *Water Supply (Safety and Reliability) Act 2008*

## Referenced Standards

AS/NZS 3823.2	Performance of electrical appliances – air-conditioners and heat pumps – Energy labelling and minimum energy performance standard (MEPS) requirements
AS 62053.21: 2005	Electricity metering equipment (AC)– Particular requirements Part 21: Static meters for active energy (classes 1 and 2)
AS 1284.1:2004	Electricity metering – General purpose induction watt-hour meters

## Definitions

Note: Italicised words in the text of the part are as defined below.

**Acceptable solution** means a relevant building solution which is deemed to satisfy the relevant *performance criterion* for the purposes of section 14 (4) (a) (ii) of the *Building Act 1975*.

**Air-conditioner**, for the purposes of P4 and A4, means a single-phase or 3-phase *air-conditioner* of the vapour compression type for which a minimum energy performance standard is stated under AS/NZS 3823.2.

**Alteration** has the meaning given in the *Building Act 1975*.

**BCA** has the meaning given in the *Building Act 1975*.

**BCA 2009** means the edition of the Building Code of Australia published by the Australian Building Codes Board for 2009 and includes any amendments published by the board.

**Classes 1, 2, 5 and 10a** has the meaning given in the Building Code of Australia.

**Climate zone** has the meaning given in the Building Code of Australia.

**Common area** means an area of *common property*.

**Common property** means the lot allocated to the body corporate for the *community titles scheme*.

**Community titles scheme** has the meaning given in section 10 of the *Body Corporate and Community Management Act 1997*.

**Customer** has the meaning given in the *Electricity Act 1994*.

**Electricity** includes electric current, electrical energy and like, and any related physical qualities.

**Electricity meter** means a device that measures and records the production or consumption of *electricity*.

**Electricity sub-meter** means a device that measures and records the production or consumption of *electricity* that either:

- a) is a minimum accuracy class 1 under AS62053.21:2005; or
- b) complies with AS1284.1:2004.

**Energy Efficiency Ratio (EER)** means its tested average energy efficiency ratio for cooling worked out under a standard for testing and rating for performance stated in AS/NZS 3823.2.

**Energy efficient lighting** is lighting with a minimum output of 27 lumens per Watt and excludes a heat lamp used in a bathroom for the purposes of radiating heat.

**Installation** means, for an *air-conditioner*, placing in position for use in the building and includes connecting to the building's electrical wiring either directly by a permanently fixed connection or by using a plug to access a general purpose outlet.

**Meter label** means a label of white heat-resistant material with black lettering fixed by means of screws, rivets or glue that clearly identifies each *meterable premise*.

**Meterable premises** means:

- a) the *sole occupancy unit* of a *class 2* or *class 5* building that is or will be connected to a supply of *electricity*, except where a *sole occupancy unit* of a *class 2* or *class 5* building has or will have an *electricity meter* as a *customer* of a *retail entity* or *special approval holder*; or
- b) each *storey* of a *class 5* building that is or will be connected to a supply of *electricity* where more than one *sole occupancy unit* for that *storey* has not been identified at the time of the building's development approval for building work,

except where a *storey* of a *class 5* building has or will have an *electricity meter* as a *customer* of a *retail entity* or *special approval holder*.

**New** means new building work and does not include *renovations* to existing buildings.

**Other renovation** means any *alteration* or addition to an existing *class 1* building or the *sole occupancy unit* of a *class 2* building which requires a building development approval and a *plumbing approval*.

**Outdoor living area** means a space that:

- (a) is directly accessible from, and attached to, a living area of the building such as a lounge, kitchen, dining and family rooms; and
- (b) has a minimum *floor area* of 12.0 square metres and a minimum dimension in all directions of 2.5 metres; and
- (c) is fully covered by a impervious roof; and
- (d) has:
  - (i) for *class 1* buildings - two or more sides open or capable of being readily opened, not including the connection between the internal living area and the *outdoor living area*; or
  - (ii) for *class 2* buildings - at least one side open or capable of being readily opened, not including the connection between the internal living area and the *outdoor living area*.

**Performance requirement** has the meaning given in the *Building Act 1975*.

**Plumbing approval** means the compliance assessment processes, compliance permit or compliance certificate, under sections 78 and 79 of the *Plumbing and Drainage Act 2002* for ensuring that plumbing, drainage and on-site sewerage systems complies with the *Plumbing and Drainage Act 2002* and *Standard Plumbing and Drainage Regulation 2003*.

**Renovation** means any *alteration* or addition to an existing *class 1* building or the *sole occupancy unit* of a *class 2* building requiring building development approval.

**Retail entity** has the meaning given in the *Electricity Act 1994*.

**Special approval holder** has the meaning given in the *Electricity Act 1994*.

**Sole occupancy unit** has the meaning given in the Building Code of Australia.

**Storey** has the meaning given in the Building Code of Australia.

**Total R-Value** has the meaning given in the Building Code of Australia.

**Verification method** means a method of determining compliance with the stated value in section V2.6.2.1 and the definition in V2.6, Volume 2 of the *BCA 2009* using

a thermal calculation method that complies with the Australian Building Codes Board Protocol for House Energy Rating Software 2006.1.

**Water service** is defined by the *Water Supply (Safety and Reliability) Act 2008*.

**Water service provider** for premises, means the person registered under the *Water Supply (Safety and Reliability) Act 2008*, chapter 2, part 3, as the *water service provider* for retail *water services* for the premises.

**PERFORMANCE  
REQUIREMENTS**

**ACCEPTABLE SOLUTIONS**

**Energy Efficiency – class 1**

- |   |  |
|---|--|
| <p><b>P1</b> A <i>class 1</i> building and an enclosed <i>class 10a</i> building attached to a <i>class 1</i> building must comply with <i>performance requirement</i> P2.6.1 and P2.6.2 of the <i>BCA 2009</i> (Volume 2).</p> | <p><b>A1</b> A <i>class 1</i> building, and an enclosed <i>class 10a</i> building attached to a <i>class 1</i> building, complies with:</p> <ul style="list-style-type: none"><li>(a) part 3.12 of the <i>BCA 2009</i> (Volume 2); or</li><li>(b) verification using a reference building in accordance with V2.6.2 and the definitions of V2.6 of the <i>BCA 2009</i> (Volume 2); or</li><li>(c) a <i>verification method</i> indicating achievement of an energy equivalent rating of not less than 5-stars; or</li><li>(d) in <i>climate zones</i> 1 or 2, where the building includes an <i>outdoor living area</i>, a <i>verification method</i> indicating achievement of an energy rating of not less than;<ul style="list-style-type: none"><li>(i) 4.5-stars where the <i>outdoor living area</i> roof covering achieves a <i>Total R-Value</i> of 1.5 for downward heat flow; or</li><li>(ii) 4-stars provided that the <i>outdoor living area</i> has at least one permanently fixed ceiling fan with a speed controller and a blade rotation diameter of not less than 900 mm and the roof covering achieves a <i>Total R-Value</i> of 1.5 for downward heat flow.</li></ul></li></ul> |
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**PERFORMANCE  
REQUIREMENTS**
**Energy Efficiency – class 2  
buildings**

**P2** The thermal performance of *sole occupancy units* in *Class 2* buildings complies with *performance requirement JP1* of the *BCA 2009* (Volume 1).

**ACCEPTABLE SOLUTIONS**

- A2** (1) The thermal performance of *sole occupancy units* in *Class 2* buildings complies with *JV1* of the *BCA 2009* (Volume 1) except that:
- (a) for *JV1(a)(i)* each *sole occupancy unit* has an energy rating of not less than 4 stars; and
  - (b) for *JV1(a)(ii)* the average energy rating of all *sole occupancy units* is not less than 5-star; and
  - (c) the deemed to satisfy provisions of *Section J* of the *BCA 2009* (Volume 1) have no effect for *sole occupancy units*.
- (2) For the purposes of calculating the average energy efficiency rating under *A2(1)(b)* of a *sole occupancy unit* of a *Class 2* building in *climate zones 1* or *2* an additional:
- (a) 0.5-star can be credited if the outdoor living area roof covering achieves a Total R-Value of 1.5 for downward heat flow; or
  - (b) 1-star can be credited if the outdoor living area has at least one permanently fixed ceiling fan with a speed controller and a blade rotation diameter of not less than 900 mm and the roof covering achieves a Total R-Value of 1.5 for downward heat flow.
- (3) To achieve a credit under **A2** (2)(b) an air conditioner that services any room directly adjacent to an *outdoor living area* must automatically shut down when an external door that provides access to the *outdoor living area* is open for more than 1 minute.

**PERFORMANCE  
REQUIREMENTS****Energy Efficient Fixtures**

- P3** In *class 1* buildings, *sole occupancy units* of *class 2* buildings and an enclosed *class 10a* building attached to a *class 1* or *class 2* building fixed interior artificial lighting must be energy efficient.
- P4** In *class 1* and *class 2* buildings new and replacement *air-conditioners* must be energy efficient.

**Water Conservation**

- P5** In *class 1* and *class 2* buildings, in areas serviced by a *water service provider*, shower roses must facilitate the efficient use of water.
- P6** In *class 1* and *class 2* buildings, in areas serviced by a *water service provider*, toilet cisterns and bowls must facilitate the efficient use of water.
- P7** In *class 1* and *class 2* buildings, in areas serviced by a *water service provider*, tap ware must facilitate the efficient use of water.

**ACCEPTABLE SOLUTIONS**

- A3** *Class 1* buildings, *sole occupancy units* of *class 2* buildings and an enclosed *class 10a* building attached to a *class 1* or *class 2* building have *energy efficient lighting* for a minimum of 80 per cent of total fixed interior artificial lighting.
- A4** In *class 1* and *class 2* buildings, new and replacement *air-conditioners* have an *EER* of at least 2.9.

- A5** In *class 1* and *class 2* buildings, in areas serviced by a *water service provider*, all shower roses have a minimum 3-star Water Efficiency Labelling and Standards rating.

**Note:** Water Efficiency Labelling and Standards (WELS) – references the Australian Government’s labelling standards scheme for water efficient products.

- A6** In *class 1* and *class 2* buildings, in areas serviced by a *water service provider*, all toilets cisterns:
- (a) have a dual flush function and have a minimum 4-star Water Efficiency Labelling and Standards rating; and
  - (b) are compatible with the size of the toilet bowl to allow for proper functioning of the toilet.
- A7** In *class 1* and *class 2* buildings, in areas serviced by a *water service provider*, tap ware has a minimum 3-star Water Efficiency Labelling and Standards rating for taps serving:
- (a) laundry tubs; and
  - (b) kitchen sinks; and
  - (c) basins.



**PERFORMANCE  
REQUIREMENTS**

**Electricity Sub-metering**

- P8** The *electricity* supplied to each *meterable premises* is able to be measured.
- P9** An *electrical meter* must be located so it is easy and safe to read and maintain at any reasonable time.
- P10** The *electrical meter* for each *meterable premises* must be labelled to indicate which *meterable premises* it is associated with.

**ACCEPTABLE SOLUTIONS**

- A8** Each *meterable premises* has an *electricity sub-meter* installed which measures only the *electricity* supplied to that *meterable premises*.
- A9** The *electricity sub-meter* is:  
(a) installed in a *common area*; and  
(b) free of hindrance or obstruction to a person authorised to read and/or maintain the *electricity sub-meter*.
- P10** A *meter label* identifying which *meterable premises* it is associated with is affixed or located adjacent to the *electrical meter* for each *meterable premises*.