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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>
<thead>
<tr>
<th>Table 1 – Application of MP 4.1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application</strong></td>
</tr>
<tr>
<td></td>
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<tr>
<td>Construction of <em>new class 1</em></td>
</tr>
<tr>
<td>buildings.</td>
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<tr>
<td>Construction of <em>new class 2</em></td>
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<tr>
<td>buildings.</td>
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<tr>
<td>Renovation of a <em>class 1</em></td>
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<tr>
<td>building.</td>
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<tr>
<td>Renovation of a <em>sole-occupancy</em></td>
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<tr>
<td>unit in a <em>class 2</em> building.</td>
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<tr>
<td>Other renovation of a <em>class 1</em></td>
</tr>
<tr>
<td>building.</td>
</tr>
<tr>
<td>Other renovation of a <em>sole-</em></td>
</tr>
<tr>
<td>occupancy unit in a <em>class 2</em></td>
</tr>
<tr>
<td>building.</td>
</tr>
<tr>
<td>*Installation of an air-conditioner in a <em>class 1</em> or <em>class 2</em> building.</td>
</tr>
<tr>
<td>Construction of a <em>new class 5</em></td>
</tr>
<tr>
<td>building.</td>
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</tbody>
</table>

*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

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
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<tbody>
<tr>
<td>AS/NZS 3823.2</td>
<td>Performance of electrical appliances – air-conditioners and heat pumps – Energy labelling and minimum energy performance standard (MEPS) requirements</td>
</tr>
<tr>
<td>AS 62053.21: 2005</td>
<td>Electricity metering equipment (AC) – Particular requirements Part 21: Static meters for active energy (classes 1 and 2)</td>
</tr>
<tr>
<td>AS 1284.1:2004</td>
<td>Electricity metering – General purpose induction watthour meters</td>
</tr>
</tbody>
</table>

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*. 

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

**Energy Efficiency – class 1**

**P1** A *class 1* building and an enclosed *class 10a* building attached to a *class 1* building must comply with *performance requirement* P2.6.1 and P2.6.2 of the *BCA 2009 (Volume 2)*.

### ACCEPTABLE SOLUTIONS

**A1** A *class 1* building, and an enclosed *class 10a* building attached to a *class 1* building, complies with:

(a) part 3.12 of the *BCA 2009 (Volume 2)*; or

(b) verification using a reference building in accordance with V2.6.2 and the definitions of V2.6 of the *BCA 2009 (Volume 2)*; or

(c) a *verification method* indicating achievement of an energy equivalent rating of not less than 5-stars; or

(d) in *climate zones* 1 or 2, where the building includes an *outdoor living area*, a *verification method* indicating achievement of an energy rating of not less than;

(i) 4.5-stars where the *outdoor living area* roof covering achieves a *Total R-Value* of 1.5 for downward heat flow; or

(ii) 4-stars provided that 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.
**Energy Efficiency – class 2 buildings**

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

**P2**

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

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<tbody>
<tr>
<td><strong>Energy Efficient Fixtures</strong></td>
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<tr>
<td><strong>P3</strong></td>
<td>In <em>class 1</em> buildings, <em>sole occupancy units</em> of <em>class 2</em> buildings and an enclosed <em>class 10a</em> building attached to a <em>class 1</em> or <em>class 2</em> building fixed interior artificial lighting must be energy efficient.</td>
</tr>
<tr>
<td><strong>P4</strong></td>
<td>In <em>class 1</em> and <em>class 2</em> buildings, new and replacement <em>air-conditioners</em> must be energy efficient.</td>
</tr>
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### Acceptable Solutions

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<tbody>
<tr>
<td><strong>A3</strong></td>
<td><em>Class 1</em> buildings, <em>sole occupancy units</em> of <em>class 2</em> buildings and an enclosed <em>class 10a</em> building attached to a <em>class 1</em> or <em>class 2</em> building have <em>energy efficient lighting</em> for a minimum of 80 per cent of total fixed interior artificial lighting.</td>
</tr>
<tr>
<td><strong>A4</strong></td>
<td>In <em>class 1</em> and <em>class 2</em> buildings, new and replacement <em>air-conditioners</em> have an <em>EER</em> of at least 2.9.</td>
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### Water Conservation

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<tbody>
<tr>
<td><strong>P5</strong></td>
<td>In <em>class 1</em> and <em>class 2</em> buildings, in areas serviced by a <em>water service provider</em>, shower roses must facilitate the efficient use of water.</td>
</tr>
<tr>
<td><strong>P6</strong></td>
<td>In <em>class 1</em> and <em>class 2</em> buildings, in areas serviced by a <em>water service provider</em>, toilet cisterns and bowls must facilitate the efficient use of water.</td>
</tr>
<tr>
<td><strong>P7</strong></td>
<td>In <em>class 1</em> and <em>class 2</em> buildings, in areas serviced by a <em>water service provider</em>, tap ware must facilitate the efficient use of water.</td>
</tr>
<tr>
<td><strong>A5</strong></td>
<td>In <em>class 1</em> and <em>class 2</em> buildings, in areas serviced by a <em>water service provider</em>, all shower roses have a minimum 3-star Water Efficiency Labelling and Standards rating.</td>
</tr>
</tbody>
</table>
| **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. |

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

**Electricity Sub-metering**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P8</strong></td>
<td>The <em>electricity</em> supplied to each <em>meterable premises</em> is able to be measured.</td>
</tr>
<tr>
<td><strong>P9</strong></td>
<td>An <em>electrical meter</em> must be located so it is easy and safe to read and maintain at any reasonable time.</td>
</tr>
<tr>
<td><strong>P10</strong></td>
<td>The <em>electrical meter</em> for each <em>meterable premises</em> must be labelled to indicate which <em>meterable premises</em> it is associated with.</td>
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</table>

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<tr>
<th>Acceptable Solutions</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A8</strong></td>
<td>Each <em>meterable premises</em> has an <em>electricity sub-meter</em> installed which measures only the <em>electricity</em> supplied to that <em>meterable premises</em>.</td>
</tr>
<tr>
<td><strong>A9</strong></td>
<td>The <em>electricity sub-meter</em> is: (a) installed in a <em>common area</em>; and (b) free of hindrance or obstruction to a person authorised to read and/or maintain the <em>electricity sub-meter</em>.</td>
</tr>
<tr>
<td><strong>P10</strong></td>
<td>A <em>meter label</em> identifying which <em>meterable premises</em> it is associated with is affixed or located adjacent to the <em>electrical meter</em> for each <em>meterable premises</em>.</td>
</tr>
</tbody>
</table>