Australian Capital Territory

Construction Occupations (Licensing) Building Energy Efficiency Assessment Sale and Lease of Residential Premises Code of Practice 2024

Disallowable instrument DI2024–7

made under the

Construction Occupations (Licensing) Act 2004, s 126A (Codes of Practice)

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1 Name of instrument

This instrument is the *Construction Occupations (Licensing) Building Energy Efficiency Assessment Sale and Lease of Residential Premises Code of Practice 2024*.

2 Commencement

This instrument commences on 15 January 2024.

3 Code of practice

I approve the Building Energy Efficiency Assessment Sale and Lease of Residential Premises Code of Practice contained in Schedule 1.

4 Disapplication of Legislation Act, s 47 (5) and 47 (6)

The *Legislation Act 2001*, sections 47 (5) and 47 (6) do not apply in relation to an instrument applied, adopted or incorporated under this instrument.

5 Revocation

I revoke the *Construction Occupations (Licensing) Building Energy Efficiency Assessment Sale and Lease of Residential Premises Code of Practice 2020* (DI2020-269).

Mick Gentleman MLA
Acting Minister for Sustainable Building and Construction
11 January 2024

SCHEDULE 1

Building energy efficiency assessment sale and lease of residential premises code of practice

January 2024

Contents

Part 1 Preliminary

1 Name of code

This code is the *Building energy efficiency assessment sale and lease of residential premises code of practice.*

2 Dictionary

The dictionary at the end of this code is part of this code.

Note 1 The dictionary at the end of this code defines certain terms used in this Code and may include references (***signpost definitions***) to other terms defined elsewhere in this Code.

Note 2 A definition in the dictionary (including a signpost definition) applies to the entire code unless the definition, or another provision of the code, provides otherwise or the contrary intention otherwise appears (see Legislation Act, s 155 and s 156 (1)).

Note 3 See the Legislation Act, s 127 (1), (4) and (5) for the legal status of notes.

3 Offences and other consequences of contravening this code

The *Construction Occupations (Licensing) Act 2004* provides offence and other enforcement mechanisms that can result from a contravention of this code.

Offences and other enforcement mechanisms apply under the *Civil Law (Sale of Residential Property) Act 2003* and the *Residential Tenancies Act 1997* to the provision of energy efficiency rating statements and a contravention of this code can result in those offences and enforcement mechanisms being applied.

Note A reference to an Act includes a reference to the statutory instruments made or in force under the Act, including regulations (see Legislation Act, s 104).

Part 2 Important concepts

4 Object of code

The object of this code is to:

(a) prescribe requirements for assessing, reporting and advertising the energy efficiency of residential premises where a requirement to provide an energy efficiency rating statement under the *Civil Law (Sale of Residential Property) Act 2003* or the *Residential Tenancies Act 1997* applies to the premises, and

(b) to provide methodologies for the preparation of energy efficiency ratings and energy efficiency rating statements.

This code provides for energy efficiency assessment and reporting for—

(a) certain new dwellings, certain substantially altered dwellings and dwellings sold off the plan; and

(b) all other residential premises for which an energy efficiency rating statement must be prepared.

5 Application to building assessors

In this code a reference to a *building assessor* is a reference to an entity who, under the *Construction Occupations (Licensing) Act 2004*, holds the appropriate class of licence that authorises the holder to undertake building assessment work for preparing an energy efficiency rating statement.

6 Meaning of certain terms—correlation with *Construction Occupations (Licensing) Act 2004* and *Building Act 2004*

A term used in this code has the same meaning as the term has in the *Construction Occupations (Licensing) Act 2004*, the *Building Act 2004*, the *Civil Law (Sale of Residential Property) Act 2003* or the *Residential Tenancies Act 1997* unless this code provides a different meaning for the term.

Note A term used in this code has the same meaning as the term has in the *Construction (Occupations) Licensing Act* 2004, the *Building Act 2004*, the *Civil Law (Sale of Residential Property) Act 2003* or the *Residential Tenancies Act 1997* (see the Legislation Act, s 148).

7 Meaning of *energy efficiency rating assessment*

In this code a reference to *energy efficiency rating assessment* means the assessment process used by a licensed building assessor to produce an energy efficiency rating statement.

An energy efficiency rating assessment involves a process that assesses the properties, characteristics and condition of a building or individual dwelling within a building (a ***premises***), including the materials used in the building or dwelling or other relevant structures, and objects external to the building or dwelling, that affect, or are likely to affect, the energy efficiency rating of the building or premises. It is performed by a Class A building assessor using software, as endorsed under the *Construction Occupations (Licensing) Regulation 2004*, s 31A.

8 Meaning of *deemed energy efficiency rating statement*

In this code a reference to *deemed energy efficiency rating statement* means an energy efficiency rating statement using an *alternative energy efficiency rating assessment* process. This may be produced by a Class A or B building assessor using a method other than an energy efficiency rating assessment.

9 Meaning of *alternative energy efficiency rating assessment*

In this code a reference to an *alternative energy efficiency rating assessment* means an energy efficiency rating produced under the direction of the construction occupations registrar using an alternative method of assessment in accordance with the direction and this code of practice. The direction issued by the construction occupations registrar prevails to the extent of any inconsistency.

10 Meaning of *energy efficiency certificate*

In this code a reference to an *energy efficiency certificate* means an energy efficiency certificate as defined in the *Building Act 2004* (s 139C) and *Building (General) Regulation 2008*.

Part 3 Energy efficiency rating statements

11 Usable energy efficiency rating statements

(1) An energy efficiency rating statement used for the purposes of the *Civil Law (Sale of Residential Property) Act 2003* or *Residential Tenancies Act 1997* must be—

(a) a current, valid and complete energy efficiency rating statement as described in section 12 of this code; or

(b) a deemed energy efficiency rating statement as described in sections 14, 15, 16 and 17 of this code.

(2) For the purposes of the *Civil Law (Sale of Residential Property) Act 2003* a current, valid and complete energy efficiency rating statement prepared more than 6 months before the day the advertisement is published may be used only if it is accompanied by a written statement made by the seller stating that—

(a) no building work under the *Building Act 2004* has been carried out on the premises that affects the energy efficiency rating contained in the energy efficiency rating statement for the habitable part of the premises; and

(b) no other building element or external element used in producing the energy efficiency rating statement has been materially altered or changed since the energy efficiency rating statement was issued that would make the energy efficiency rating statement false or misleading.

(3) For the purposes of the *Residential Tenancies Act 1997* if a current, valid and complete energy efficiency rating statement was prepared more than 2 years before the day the advertisement is published it must be accompanied by a written statement made by the owner stating that—

(a) no building work under the *Building Act 2004* has been carried out on the premises that affects the energy efficiency rating of the habitable part of the premises; and

(b) no other building element or external element (including relevant external structures and objects such as a neighbouring property) used in providing the energy efficiency rating statement has materially altered or changed since the energy efficiency rating statement was issued that would make the energy efficiency rating statement false or misleading.

Note A written statement is not part of the energy efficiency rating statement but accompanies it. If an owner has a current, valid and complete energy efficiency rating statement, the statement and the energy efficiency rating it contains must be provided and advertised in accordance with the *Residential Tenancies Act 1997*.

Examples of changes to other building and external elements that may make an energy efficiency rating false or misleading

1 An owner of a property removed parts of previously installed bulk thermal insulation from the ceiling space of a living room to make clearances for the installation of a number of recessed luminaires (downlights). The alterations were not carried out in association with any building work. Removing insulation around the new fixtures reduced the effective level of insulation to below that included in the original rating.

2 A building owner has installed carpet over the concrete floor in a living room, which had been providing thermal mass. Laying carpet has affected the thermal properties of the building.

3 The assessment for a dwelling built close to the property boundary was undertaken when the property did not have a neighbouring building. The new building now partially shades a north-west section of the building previously unshaded in winter or summer affecting the heat gains and losses in the living spaces in that section.

12 Requirements for energy efficiency rating statements

An energy efficiency rating statement must be current, valid and complete.

(a) An energy efficiency rating statement is current if—

(i) it reflects the presence and condition of all relevant assessable building elements of the premises and relevant external structures and objects; and

(ii) for premises that have been occupied, the seller or the owner of the relevant property has commissioned the energy efficiency rating.

(b) An energy efficiency rating statement is valid if—

(i) the relevant energy efficiency rating assessment—

(A) was carried out by a person who was a building assessor holding a class A licence at the time of issuing the energy efficiency rating statement; and

(B) the relevant energy efficiency rating was undertaken using software, that the building assessor is endorsed to operate for the purposes of the *Civil Law (Sale of Residential Property) Act 2003* or *Residential Tenancies Act 1997*; and

(C) the relevant energy efficiency rating assessment was carried out in accordance with this code of practice; and

(D) if the construction occupations registrar has directed the building assessor under sections 13 and 14 to complete the assessment using a prescribed method, the assessment was carried out in accordance with that direction; and

(ii) the statement does not contain information that is materially false or misleading; and

(iii) the front page of the statement is marked in accordance with section 54 of this code of practice.

(c) An energy efficiency rating statement is complete if it includes—

(i) the energy efficiency rating cover page; and

(ii) rating summary sheet; and

(iii) the detailed house data tables; and

(iv) reasonable options for how to improve the rating.

Note 1 An energy efficiency rating statement in respect of plans for a proposed building, issued before the building was constructed is not necessarily a complete energy efficiency rating statement after the building is subsequently completed.

Note 2 The optimise function of FirstRate 4 produces the 'Improving your Rating' sheet. This sheet must be included as part of the energy efficiency rating statement and show reasonable options for improving the energy efficiency performance of the dwelling. Options that are not reasonable, for example reorientating an already constructed house, should be removed from the listed options.

13 Energy efficiency ratings and statements not to exceed the limitations of stated software

(1) This section applies only if—

(a) a building, or part of a building, cannot be assessed using the energy modelling methodology in software prescribed in s 12(b)(B); and

(b) no provision for assessing or modelling the specific characteristics of the building element or elements is prescribed in this code of practice or relevant instructions (***user instructions***) of the software used to prepare the energy efficiency rating statement.

(2) A building assessor must not produce an energy efficiency rating statement using stated software if the conditions in subsection (1) apply, without the authorisation of the construction occupations registrar.

(3) If the assessment of a building, or part of a building, exceeds the software modelling parameters (the ***limitations of stated software***), before completing the energy efficiency rating assessment the building assessor must notify the construction occupations registrar of the circumstance.

(4) On receiving a notification, the construction occupations registrar must direct the building assessor within 5 working days to—

(a) complete the energy efficiency rating statement using a prescribed method; or

(b) if no reasonable method of assessment for the relevant software exists, to complete an alternative energy efficiency rating assessment.

(5) A building assessor must comply with a direction for completing the energy efficiency assessment given by the construction occupations registrar under subsection (4).

Example of a building that cannot be assessed using stated software

1 A building has an amount of glazing in a particular orientation that exceeds the glazing ratios that can be modelled by the software. The assessor receives an error message when carrying out the assessment that indicates it is beyond the limitations of the software to accurately assess the building.

14 Deemed energy efficiency rating statement

(1) This section applies only if the registrar has directed a building assessor to complete an alternative energy efficiency rating under s 13 (4) (b).

(2) A deemed energy efficiency rating statement must contain—

(a) the alternative energy efficiency rating and summary of building and external elements in the form required by the construction occupations registrar; and

(b) any other energy efficiency assessment documentation detailing the efficiency of the building and or building elements required by the construction occupations registrar.

15 Deemed energy efficiency rating statement for new premises

(1) This section applies only if –

(a) the premises are new;

(b) there is no other energy efficiency rating complying with these guidelines for the premises; and

(c) any of the following circumstances apply:

i. the premises have never been occupied; or

ii. a certificate of occupancy for the premises that is not older than 5 years after the day it was issued exists for the entire premises; and

iii. the premises has not had:

a. building work under the *Building Act 2004* carried out on the premises that affects the energy efficiency rating of the habitable part of the premises; and

b. no other building element or external element (including relevant external structures and objects such as a neighbouring property) has materially altered or changed since the certificate of occupancy was issued that would affect the energy efficiency rating of the habitable part of the premises.

(2) A deemed energy efficiency rating statement for new premises must contain—

(a) a certificate of occupancy issued under the *Building Act 2004*; and

(b) the energy efficiency certificate that must be provided under the *Building Act 2004*, s 139C for the premises; and

(c) any relevant energy assessment documentation detailing the efficiency of the building and or building elements.

(3) For this section ***new premises*** means premises that were completed and issued with a certificate of occupancy at the time of completion and that certificate of occupancy is not older than 5 years old.

16 Deemed energy efficiency rating statements for sale off the plan

For incomplete or proposed premises to be sold 'off the plan' the seller must provide—

(a) if a building approval for the premises has been issued under the *Building Act 2004*, a copy of the floor plan and elevation from that approval; and

(b) the energy efficiency certificate that must be provided under the *Building Act 2004*, s 139C.

Note Examples of energy efficiency certificates under s 139C of the Building Act include Nationwide House Energy Rating Scheme (NatHERS) certificates and reports and documents supporting the other energy efficiency compliance pathways (Verification Using a Reference Building, Deemed to Satisfy Elemental provisions, or performance solutions).

(c) for buildings approved under a compliance method other than the use of house energy rating software, a written statement in accordance with Schedule 1 stating the nominal rating as mentioned in subsection 18 (1) (c).

Note 1 This allows buildings that meet the energy efficiency performance requirements for dwellings under the building code to use alternative building approval compliance methods in order to on-sell the building. This method is only permissible for a building yet to be completed at the time of sale.

17 Deemed energy efficiency rating statements for substantially altered premises

(1) This section applies only if—

(a) the certificate of occupancy is issued for the substantial work; and

(b) compliance with relevant energy efficiency provisions of the building code was demonstrated using house energy rating software for the entire premises as substantially altered; and

(c) the energy efficiency certificate is not older than 6 months since it was issued; or

(d) if the energy efficiency certificate is older than 6 months since it was issued, it is accompanied by a written statement made by the seller stating that—

(i) no building work under the *Building Act 2004* has been carried out on the premises that affects the rating in the energy efficiency certificate of the habitable part of the premises; and

(ii) no other building or external element (including relevant external structures and objects such as a neighbouring property) used in producing the energy efficiency certificate has been materially altered or changed since the energy efficiency certificate was issued that would make the energy efficiency certificate false or misleading.

Note 1 S 16 provides for buildings that have been substantially altered and have a NatHERS rating for the entire premises to be offered for sale or rent. This will avoid the requirement for substantially altered residences to obtain a separate rating if the building has been rated in accordance with relevant building regulation.

Note 2 The *Civil Law (Sale of Residential Property) Act 2003* and *Residential Tenancies Act 1997* also provide for circumstances where a new energy efficiency rating statement must be obtained.

(2) A deemed energy efficiency rating statement for substantially altered premises must contain—

(a) a certificate of occupancy issued under the *Building Act 2004*, and

(b) the energy efficiency certificate that must be provided under the *Building Act 2004*, s 139C; and

(c) for an energy efficiency certificate older than 6 months the written statement as mentioned in subsection (1) (d); and

(d) any relevant energy assessment documentation detailing the efficiency of the building and or building elements.

18 Reporting of energy efficiency rating statements

(1) An energy efficiency rating statement must be provided in accordance with the following—

(a) for premises requiring an energy efficiency rating statement—

(i) the energy efficiency rating being the star rating band at Schedule 2 in which the assessed point score falls stated to a half star increment to a maximum of 6 stars; and

(ii) the point score for the premises generated by the software; or

(b) for premises that meet the requirements of sections 14, 15, 16 and 17 and for which a deemed energy efficiency rating statement or energy efficiency certificate has been produced—

(i) the energy efficiency rating being the star rating band at Schedule 3 in which the adjusted energy efficiency certificate rating falls reported in half star increments; and

(ii) the area adjusted heating and cooling loads generated by the software; or

(c) for premises that meet the requirements of section 16 and for which an energy efficiency certificate has not been produced, a nominal rating of 6 stars.

19 Advertising of energy efficiency ratings

The advertised rating for a premises must be the energy efficiency rating reported in accordance with section 18.

Part 4 Energy efficiency assessment—energy efficiency rating statements

20 Application of Part 4

The general assessment protocols and procedures contained in this Part apply to energy efficiency rating assessments for the provision of an energy efficiency rating statement. The construction occupations registrar may also apply this part to the preparation of deemed energy efficiency rating statements.

21 Collection and verification of data

(1) A building assessor preparing an energy efficiency rating statement must take all reasonable action to collect all relevant data on the assessable elements of the building and other external structures and objects affecting, or likely to affect, the thermal performance of the building reasonable to conduct an assessment of the premises, including but not limited to—

(a) a copy of the latest approved building plans for the premises including any extensions or alterations, if available;

(b) relevant specifications including window schedules, insulation schedules, lighting plans and details of vents and other permanent openings;

(c) collection of information on construction types, materials and dimensions, where not available on approved building plans or other specifications, including the location and properties of insulation;

(d) independent certification confirming installation of assessable building elements;

(e) information on unapproved structures and other material alterations to the building and its surrounds that are relevant to the energy efficiency of the premises; and

(f) structures and other potential obstructions on the property or adjacent properties, including trees that are protected trees under the *Urban Forest Act 2023*.

(2) The building assessor must take all reasonable action to verify by visual inspection—

(a) construction types used in the premises;

(b) materials in the building and their condition;

(c) the presence, type and effective level of insulation in the wall, subfloor and ceiling by accessing ceiling and underfloor spaces where reasonable access exists;

(d) weather-sealing and draught-proofing around external openings;

(e) structures and external shading to the premises;

(f) glazing properties;

(g) other information on building plans and documents relevant to the energy efficiency rating; and

(h) the presence and properties of any other element required to be assessed under s 25.

(3) To remove any doubt, for subsection (2) where information exists on approved building plans or other existing specifications, as far as is reasonable a building assessor must—

(a) verify the information on the approved plans; and

(b) identify—

(i) any discrepancies between the information contained on the plans and subsequent alterations; and

(ii) relevant changes to the premises and its assessable elements.

(4) A building assessor must not use information collected from the building owner or another person for whom a conflict of interest exists under s 123AE of the *Construction Occupations (Licensing) Act 2004* unless independent verification or other evidence of the accuracy of the information is obtained.

Note Where a building assessor relies on data collected by a third party for whom a conflict of interest does not exist the accuracy of the data and subsequent energy efficiency rating assessment remain the responsibility of the building assessor as far as is reasonable.

22 Documentation of information

(1) A building assessor must record all relevant information used in an energy efficiency rating assessment not already documented in building plans or specifications, including—

(a) copies of independent evidence;

(b) notes from a visual inspection of the assessable elements of the premises;

(c) notes detailing any limitations in collecting and verifying information; and

(d) justification for assumptions later relied on in producing an energy efficiency rating statement where not provided for in this code.

(2) A building assessor must prepare a simple sketch plan detailing the following if identified—

(a) alterations or changes to the premises and its assessable elements; or

(b) unapproved structures and external obstructions not shown on existing plans; or

(c) any other information on building properties or materials not documented in existing building plans or specifications.

(3) A plan prepared for subsection (2) need not be a scaled drawing but must show accurate dimensions.

23 Allowable energy efficiency rating software

An energy efficiency rating statement must be prepared using the software mentioned in s 12 or authorised by the registrar as software allowed for preparing an energy efficiency rating statement.

Note The Building Code of Australia provides for other methods of achieving and estimating a building's energy efficiency for building approval. Those methods do not necessarily comply with this code.

24 Authorisation to use stated software

A building assessor preparing an energy efficiency rating statement must have a licence endorsement that authorises operation of the software used to prepare the statement.

25 Elements to be assessed

(1) All relevant elements of the premises and external surrounds must be assessed as part of an energy efficiency rating assessment, including but not limited to—

(a) Orientation of the premises;

(b) Floor, subfloor, ceiling, roof and wall construction;

(c) Ceiling and wall heights;

(d) Glazing and window properties;

(e) Roof windows and skylights;

(f) Internal window coverings;

(g) Insulation;

(h) Air flow and ventilation, including door and window sealing;

(i) Permanent ceiling, wall and floor openings;

(j) Ceiling fans;

(k) Floor coverings;

(l) Fixed and adjustable external shading;

(m) Structures and external obstructions on the property or adjacent properties; and

(n) Trees that shade the property that are *protected trees* under the *Urban Forest Act 2023*.

(2) A building assessor must confirm with the lessee whether any relevant fixtures, fittings or external structures will not be retained as installed in or on the premises in the sale or lease.

(3) If a relevant fixture, fitting or external structure is not to be retained in or on the premises and this is specified by the lessee in sale or tenancy documents for the premises, the element must be excluded from the assessment.

(4) If a fixture, fitting or external structure is to be relocated in or on the premises as specified by the lessee in sale or tenancy documents for the premises, the element must be assessed in the new location.

Note Contracts for sale and lease generally include standard clauses relating to fixtures, fittings and other external structures to be retained as part of the premises. However, in some sales the lessee may choose to list items in the contract such as window coverings, sheds, and floor coverings as specifically excluded from the transaction i.e. that the lessee will remove these items prior to the transfer of title or occupancy.

26 Assumptions – general

(1) No assumptions about the properties of a building, building element, external structure or object can be made other than those allowed by this code.

(2) Where the properties of a building, building element, external structure or object cannot be verified after all reasonable attempts the value or property representing the lowest thermal performance that can be input to the software must be assigned to the element.

Note The input value representing the lowest thermal performance may not be the default value in the software setting.

27 Software settings

(1) An energy efficiency rating statement must be prepared—

(a) in ‘non regulation’ mode; and

(b) using the internal software default climate data, behavioural settings, algorithms and the like; and

(c) for premises located in the Australian Capital Territory, in climate zone 24; or

(d) for premises located in the Jervis Bay Territory, climate zone 18.

Note Default data does not include the default input values for building elements. All input values must be determined in accordance with this code.

28 Orientation

(1) Orientation of the premises must be obtained from a site or survey plan.

(2) If a reliable indication of the orientation is not available the orientation of the premises must be calculated from true north.

(3) Magnetic north must not be used in place of true north.

Note True north is 12 degrees west of magnetic north.

29 Floor areas

(1) Floor areas must be measured to the outside of external walls.

(2) Unconditioned (utility) zones as defined in Schedule 4 must be excluded from floor area calculations.

30 Zoning

(1) All parts of a building capable of being fully enclosed, including internal storage spaces must be included in a zone.

(2) A room must be assessed as a conditioned or unconditioned (utility) zone in accordance with Schedule 4.

(3) If a room is not defined in Schedule 4 it is deemed to be a conditioned space where—

(a) the room could be artificially heated or cooled; or

(b) the room has no natural ventilation to the exterior of the premises.

Note The provide natural ventilation a window or skylight to the exterior of the building must be capable of being opened.

31 Garages

(1) A garage that is attached to the dwelling must be assessed as an enclosed non-habitable space.

(2) Any wall between a dwelling and an attached garage must be assessed as constructed.

(3) The external walls of an attached garage need not be modelled in the software.

32 Adjacent properties

Walls, floors and ceilings adjacent to other conditioned buildings or spaces must be assessed as "adjacent (neighbour)".

33 Adjoining units

Adjoining units with shared building elements, including floors, walls and ceilings must be modelled as "shared" for the respective construction element.

34 Modelling of obstructions

(1) Obstructions to a window must be assessed that are—

(a) Within a 10 metre distance from the nearest point of the window along the plane of the wall the window is in; and

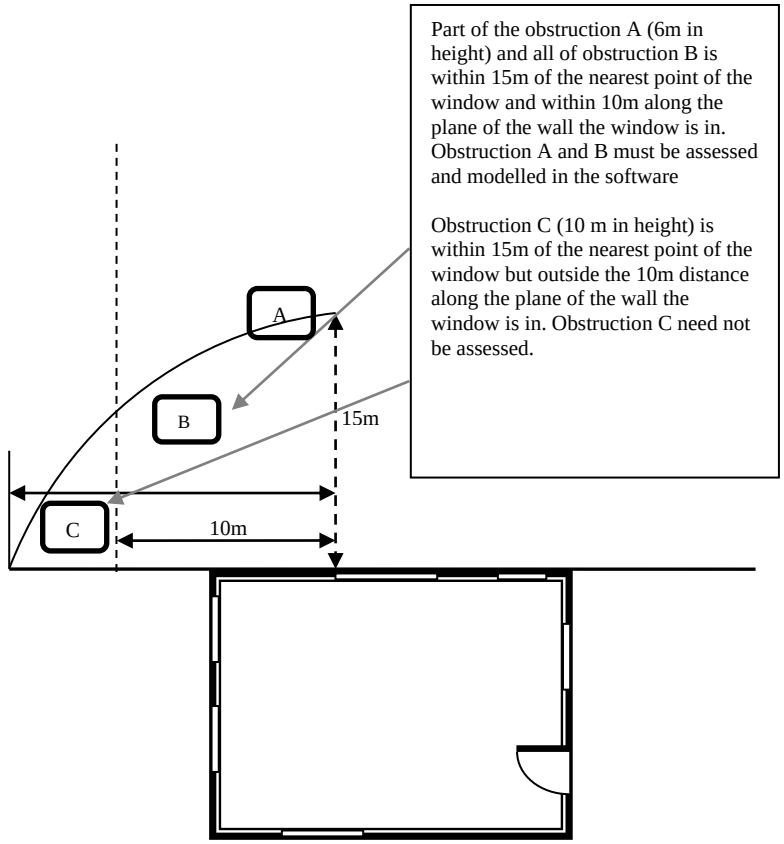
(b) 3 metres or greater in height within a 10 metre distance from the closest point of the window; or

(c) 6 metres or greater in height within a 15 metre distance from the closest point of the window; or

(d) 9 metres or greater in height within a 20 metre distance from the closest point of the window.

(2) The obstruction must be modelled to each of the windows to which subsection (1) applies.

Figure 1.34 Modelling of obstructions – section 34



35 Trees

(1) A *protected tree* to which s 34 (1) applies must be assessed as a solid obstruction on a perpendicular plane to the wall the window is in.

(2) The minimum dimensions of both the width and depth of the obstruction must be taken to be the averaged diameter of the trunk, or of all trunks where the tree has 2 or more trunks, at 1 metre above natural ground level extending for the height of the tree calculated in accordance with Schedule 5.

(3) For a tree that has an averaged diameter of less than 0.5 metres, both the width and depth of the obstruction must be assessed as 0.5 metres.

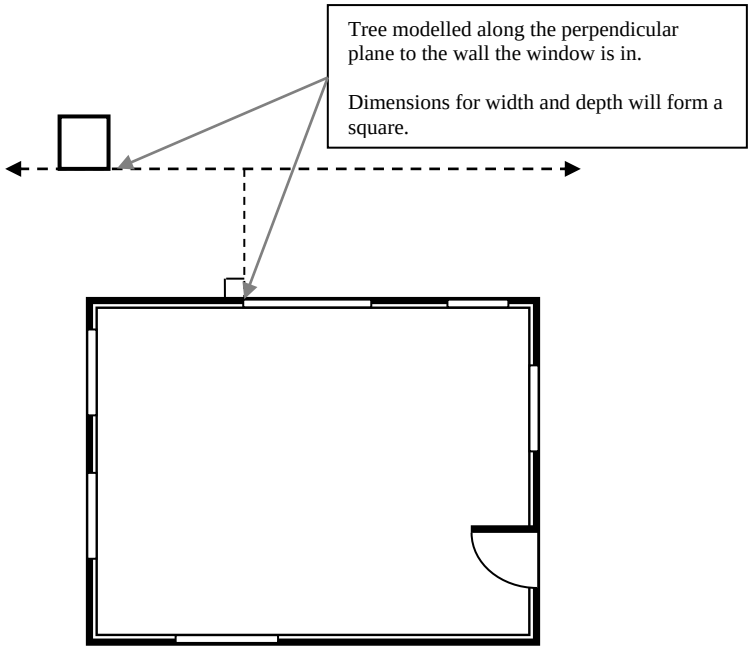
(4) The canopy of the tree need not be included in the dimensions of the obstruction unless a tree is registered (a ***registered tree*** or ***provisionally registered tree***) and the tree classification has dense, permanent foliage.

(5) A building assessor may use dimensions of a tree recorded in the ACT Tree Register to calculate the dimensions of the obstruction.

Note 1 FirstRate 4 software cannot assess seasonal variations in the density of foliage. This method is intended to provide a proxy for the permanent obstruction of the tree trunk. It is not to be assumed that the foliage of all trees will permanently shade a premises located within the proximity to the tree as described in s 34(1).

Note 2 Dimensions of *registered trees* and *provisionally registered trees* can be found on the ACT Tree Register kept by City Services and is accessible at ACT tree register - City Services (www.cityserices.act/gov.au/trees-and-nature/trees/act-tree-register).

Figure 1.35
Example—modelling of tree as an obstruction—section 35.



36 Sub floor ventilation

Sub floor ventilation for a suspended concrete or timber floor must be assessed in accordance with Schedule 6.

37 Roof ventilation

Roof ventilation must be assessed in accordance with Schedule 7.

38 Air infiltration and leakage

Infiltration and air leakage values must be determined in accordance with Schedule 8.

39 Selection of walls

Wall types that are not listed in the software must use the "Wall Selector" option to determine—

(a) the equivalent wall type; and

(b) if relevant, the insulation resistance value to be added or deducted from the equivalent wall type for the resistance value to be modelled in accordance with s 40.

40 Resistance values of insulation

(1) All input effective resistance values for insulation must be for the insulation material only.

(2) The effective resistance value of bulk insulation is the initial resistance value assessed under s 41 or s 42, less any correction for gaps in ceiling insulation required under s 43.

(3) No resistance value is to be entered for reflective insulation in a ceiling or subfloor space.

Note The software calculates the total resistance value of a wall, subfloor and or roof space, and the resistance value of reflective insulation in ceiling and subfloor spaces.

41 Determination of insulation properties

(1) A building assessor must verify or identify the insulation materials, and the thickness of bulk insulation, if any, installed in a premises.

(2) For bulk insulation, the initial resistance value of an insulating material in ceiling voids, wall cavities and other spaces in the building envelope must be determined in accordance with schedule 9.

(3) If reasonable access to a space exists, a visual inspection must also determine the insulation material, its thickness and the extent of the insulation installed.

(4) If reasonable access to a space does not exist, the insulation resistance value may be determined only by—

(a) approved building plans; or

(b) a certificate or invoice from an insulation installer which clearly identifies the resistance value of the insulation installed; or

(c) if no document mentioned in (a) and (b) exists, in accordance with s 42.

(5) In this section:
reasonable access—there is reasonable access for a person to inspect if —

(a) for subfloor and ceiling insulation—

(i) there is space for the assessor to identify the presence of an insulation material, and if present, identify the type of insulation material, measure the depth of a representative thickness of the insulation, and view the coverage of the insulation; or

(ii) for a roof space there is an access hole of at least 500mm by 400mm reachable by a 3.6m ladder; and

(iii) access does not require making an access hole or moving large, heavy objects; and

(iv) there is space for the assessor to at least crawl along (on temporary support planks if necessary) and work in (lying flat if necessary) to assess the insulation; and

(v) the space is at least 600mm wide and 600mm high, apart from any obstacles intruding into the space; and

(vi) any obstacles intruding into the space do not reduce the dimensions of the space to less than 450mm wide and 450mm high and are reasonably negotiable by a person used to working in confined spaces.

Example 2 —obstacles
access hatch, truss member, beam, pier

Note An example is part of the regulation, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

(b) for wall insulation—

(i) for identifying the presence and type of insulation material, there is space to operate an inspection mirror with a minimum handle length of 50 centimetres;

(ii) for measuring the thickness of the insulation, the conditions in subsection (5)(a) (ii)-(iv) apply.

Note 1 A building assessor must collect all information reasonable access allows. If the presence of the insulation can be verified but not the thickness the initial resistance must be determined in accordance with s 42.

Note 2 The *Work Health and Safety Act 2011* outlines general requirements for protecting workers and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work or from specified types of substances or plant. The *Work Health and Safety Act 2011* includes provisions for working in confined spaces, working in proximity to building services, such as electricity, and in spaces that may contain hazardous materials. Building assessors must comply with any relevant work safety regulations and guidelines in carrying out their work including risk mitigation, training and the use of personal protective equipment.

However, a visual inspection of roof and subfloor spaces is an inherent component of a building assessment. Other than where entering or remaining in a space would be a breach of legislation or an unreasonable safety risk, removing an inspection from the building assessment process or failing to undertake a physical inspection is not a valid reason for non-compliance with inspection requirements in this code.

Note 3 A building assessor must comply with all relevant legislation when conducting an inspection and take all reasonable actions to avoid damage to the premises. For example, removing electrical socket outlets (power points) requires an electrical licence in the ACT, and so a building assessor that does not also hold an appropriate electrical licence may not remove a socket outlet to check for the presence of insulation.

42 Assumptions on maximum levels of insulation

(1) This section applies only if—

(a) no evidence on building plans or other documentation allowed at 41 (4) (a) or (b) is available; and

(b) the insulation type or thickness could not reasonably be determined by an inspection of the premises.

(2) The initial resistance value may be determined in accordance with Schedule 10.

43 Corrections for gaps in ceiling insulation

(1) If there are gaps in the coverage of bulk insulation, a reduction in the initial resistance value must be calculated in accordance with Schedule 11 to this code.

(2) If the extent of the gaps in the coverage of the insulation cannot be assessed a reduction of 1 percent must be assumed.

(3) If the total uninsulated area exceeds 5 percent of the total area of the ceiling the effective resistance value must be assessed as 0.

(4) A reduction in the initial resistance value must be assessed where insulation—

(a) is not installed to abut or overlap adjoining insulation other than at supporting members such as columns, studs, noggings, joists, furring channels and the like where the insulation must but against the member; or

(b) does not form a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; or

(c) has a gap for clearance relating to the safe and effective operation of a service or fitting; or

(d) a recessed luminaire barrier is present.

Note Gaps in insulation may be caused by incorrect installation of insulation or include roof access openings to the ceiling not insulated, exhaust fans to kitchens, laundries and bathrooms that are not damped, light and heater and exhaust fans in kitchens and wet areas and clearance distances for recessed luminaires (downlights).

Example 1 —An energy efficiency rating assessment is undertaken on a building with a ceiling area of 150m^2. The insulation as installed is 175mm glasswool. The resistance value of this material is R3.00 as per Schedule 9. A visual inspection of the premises indicates that there are recessed down lights, an uninsulated access opening, and an uninsulated roof access. The total area is 3m^2. Therefore the area that is uninsulated is 2% of the ceiling area. The effective resistance value is of insulation to be input into the software from Schedule 11 is R1.8.

Example 2 —An energy efficiency rating assessment is undertaken on a building with a ceiling area of 200m^2. The insulation as installed has an R value of R4.0. A visual inspection of the premises indicates that the ceiling insulation is not installed in the ceiling for an area in excess of 10m^2. The area uninsulated is greater than 5% of the floor area therefore the effective resistance value of insulation is "0".

44 Reflective foil insulation

(1) Only layers of reflective foil that are facing down into an air space should be modelled.

45 Slab edge insulation

(1) An energy efficiency rating statement must not include an assessment of slab edge insulation.

(2) To remove any doubt, a building assessor must not assign a value or include an allowance in any input value for slab edge insulation.

Note Slab edge insulation cannot be modelled in First Rate 4 software.

46 Glazing and windows

(1) Generic glazing and framing types must be input except where—

(a) the window type is explicitly declared on relevant documents; or

(b) the window type can be determined from a site inspection.

(2) Thermal properties of the window and the frame assembly must be calculated using Australian Fenestration Rating Council data.

47 Roof windows and skylights

(1) All skylights and roof windows must be modelled at the most appropriate inclination and orientation.

(2) If a skylight or roof window is inclined at over 80 degrees to the horizontal it must be modelled as a window.

48 Glazing in external entry doors

(1) An external entry door with a glazing area that is greater than 50 percent of the door area must be modelled as a window.

(2) A sidelight to an entry door must be modelled as a window.

49 Internal window coverings

Internal window coverings must be assessed in accordance with Schedule 12.

50 External window shading

(1) All eaves and external shading devices must be modelled.

(2) Eaves widths for fixed opaque eaves must be as installed.

(3) If fixed and adjustable shading devices are present, the input values must be calculated in accordance with Schedule 13.

(4) External shading formed by pergolas and pergola-like devices that have a light blocking factor of less than 50 percent must not be modelled as shading devices.

Example 1 — devices with light blocking factors less than 50% include, but are not limited to, open pergola structures with no battens or roofing and certain translucent and clear roof sheeting including certain translucent and clear polycarbonate materials.

(5) Eave widths for a pergola or pergola-like external shading device that has a light blocking factor of greater than 50 percent and less than 100 percent must be calculated in accordance with Schedule 13.

(6) If the light blocking factor of an external shading device in not known, the external shading device must be assessed in accordance with Schedule 13.

51 Floor Coverings

Floor coverings must be modelled as installed in the premises.

52 User instructions

(1) If an instruction for assessing an element is not included in this code but is contained in the software instructions (the ***user instructions***), the element must be assessed in accordance with the relevant instruction.

(2) If there is an inconsistency between the software user instructions and this code, the code prevails to the extent of the inconsistency.

53 Information not to be included in the energy efficiency rating statement

(1) Information that is not an authorised input into the software or generated by the software must not be included in the energy efficiency rating statement.

(2) This section does not restrict the operation of sections 54 and 56.

Example of information that is not authorised

Business logos, business branding, quotations for work, comments on other aspects of the building or its performance.

54 Marking of documents

(1) If a building assessor prepares an energy efficiency rating statement, the statement and each of the *accompanying documents* must be marked with a mark including the information required by subsection (2) in an approved form at Schedule 14.

(2) A mark must include only—

(a) the name and licence number of the building assessor who has prepared the energy efficiency rating statement; and

(b) the rating score points and corresponding star rating from 0 to 6 stars in accordance with s 18; and

(c) the date the energy efficiency rating statement was issued; and

(d) the signature of the licensed assessor; and

(e) any other information mentioned in the approved form prescribed at Schedule 14.

Note If a form is approved under the *Construction Occupations (Licensing) Act 2004* for the mark, the form must be used. The Legislation Act includes provisions about forms (see s 255).

(3) However, if, because of the size of the accompanying documents, it is impractical to mark each document, the building assessor may instead mark a document other than the energy efficiency rating statement with the building assessor's initials and licence number and the date.

(4) A mark must be clearly legible and must not obscure other information on the marked documents.

(5) An approved mark must only be used in accordance with this code of practice.

(6) If a building assessor completes an energy efficiency rating statement, the assessor must give to the person who commissioned the energy efficiency rating statement a copy of—

(a) the statement; and

(b) the relevant plans; and

(c) if 1 or more of the accompanying documents are not attached to the plans—the accompanying documents that are not attached.

(7) In this section:
accompanying document, in relation to an energy efficiency rating statement means a document required to accompany the lodgement of the energy efficiency rating statement under s 56 (b) – (d).

Note S 56 requires certain documents to accompany lodgements of energy efficiency rating statements. An assessor need not provide the electronic software rating file containing the assessment or working calculation unless agreed with the client.

Part 5 Lodgement of energy efficiency rating statements and accompanying documents

55 Application of Part 5

The lodgement protocols and procedures in this Part apply to all energy efficiency rating statements and deemed energy efficiency rating statements.

56 Submission of documents

(1) A building assessor must give to the construction occupations registrar not later than 10 working days after the day of issue of an energy efficiency rating statement—

(a) a copy of the electronic software file generated by the energy efficiency rating software containing the assessment and all inputs for the premises; and

(b) a copy of the marked energy efficiency rating statement; and

(c) a copy of any plan, approval, certificate, specification or determination the assessor has relied on for the purpose of issuing the energy efficiency rating statement;

(d) any certificate or other document given or prepared by someone else that the assessor has relied on for the purpose of issuing or giving an energy efficiency rating statement or a relevant document in accordance with this provision;

(e) the assessor's working papers and calculations that are relevant to the issuing or giving of an energy efficiency rating statement.

(2) The documents must be given in the form and method stipulated by the construction occupations registrar.

(3) The construction occupations registrar may, in writing, exempt an assessor from complying, completely or partly, with anything mentioned in subsection (1) in relation to the issuing of an energy efficiency rating statement.

(4) A building assessor is not required to give the construction occupations registrar a copy of a document or paper mentioned in subsection (1) if—

(a) the building assessor has already given to the construction occupations registrar, under this code of practice or under a function

of the *Construction Occupations (Licensing) Act 2004*, the document or paper, or a copy of the document or paper; or

(b) the documents were originally obtained from a building or other file held by the construction occupations registrar and no additional information has been recorded on the document; or

(c) the registrar has exempted the assessor under subsection (2) from giving the copy.

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(5) If the assessor is required to give the constructions occupations registrar written evidence of something under this section—

(a) the registrar may ask for further information relevant to the thing in relation to anything not dealt with, or not adequately dealt with, in the written evidence; and

(b) the assessor must give the registrar the further information not later than 5 working days after the day the registrar asked for it.

Dictionary

Note The Legislation Act, the *Building Act 2004*, the *Civil Law (Sale of Residential Property) Act 2003*, the *Residential Tenancies Act 1997* and the *Construction Occupations (Licensing) Act 2004* may contain definitions and other provisions relevant to this code.

assess means to determine relevant properties of an element and its likely effect on thermal performance and assign a value for those properties.

building assessment service—see s 8A of the *Construction Occupations (Licensing) Act 2004*.

building code—see s 136 of the *Building Act 2004*.

building element—includes a wall, ceiling, roof, window, shading device, subfloor, floor covering, light fitting, penetration etc.

effective resistance value means the initial resistance value of an insulation material assessed under sections 41 or 42, less any correction for gaps in ceiling insulation required under s 43, see also s 40.

energy efficiency certificate—see s 139C of the *Building Act 2004*.

energy efficiency rating means the energy efficiency rating contained in an energy efficiency rating statement.

energy efficiency rating statement – see s 123AC of the *Construction Occupations (Licensing) Act 2004*.

house energy rating software means software accredited under the Nationwide House Energy Rating Scheme (NatHERS). It is primarily used as a compliance pathway for the energy efficiency requirements of National Construction Code.

initial resistance value means the resistance value of an insulation material that does not account for any corrections or reductions in performance based on gaps in coverage.

limitations of stated software, in relation to energy efficiency assessment, means the capacity of a software package to accurately assess the effect of specific properties or parameters of a building, or part of a building, that are included in the scope of an energy efficiency rating assessment.

model means to represent an element and its properties in energy efficiency assessment software.

premises—see s 20 of the *Civil Law (Sale of Residential Property) Act 2003*.

provisionally registered tree means a tree that is provisionally registered under part 4 (Registration of trees) of the *Urban Forest Act 2023*.

R value—see *resistance value*.

registered tree means a tree that is registered under part 4 (Registration of trees) of the *Urban Forest Act 2023*.

resistance value, in relation to energy efficiency assessment means a measure of a material's resistance to heat transfer across the material, and given as a single value representing heat transfer per unit area based on the thickness of the material and its specific ability to conduct heat (thermal conductivity).

substantial alteration —see s 29 of the *Building Act 2004*.

thermal performance means the responsiveness of a structure to changes in external temperature and capacity to transfer heat.

user instructions means the instructions specific to a software package or version of a software package provided or authorised by the owners of that software to instruct users on the correct use of the software, including but not limited to handbooks, guidance notes, help desks and help functions within the software.

Schedule 1 Written Statement - s15

This form is an example of a written statement that may be used where the *Construction Occupations (Licensing) Building Energy Efficiency Assessment Sale and Lease of Residential Premises Code of Practice 2023)* requires a written statement to be provided.

WRITTEN STATEMENT AS TO A NOMINAL ENERGY EFFICIENCY RATING

1 Insert the name, address and occupation of person making the statement

I,……

……

make the following statement*:*

1. That I/we am/are offering for sale the premises Unit……Block……..Section…… also known as ……. (the premises).

2. That I/we am/are aware of the requirement under the *Civil Law (Sale of Residential Property) Act 2003* that a deemed energy efficiency rating statement must be provided to form a part of the Contract of Sale for the premises.

3 Describe method of compliance e.g. DtS Elemental, NatHERS energy efficiency certificate.

3. That the premises complies with the respective energy efficiency provisions of the Building Code of Australia and that compliance will be demonstrated using the method ……..…… ……..

4. The premises may be advertised using a nominal rating of no greater than the minimum energy efficiency rating for the individual dwelling (eg sole-occupancy unit) required in the version of the building code the dwelling was approved under to a maximum of 6 stars.

4. That the premises will meet a nominal standard of …… stars.

I understand that a person who intentionally makes a false or misleading statement may be guilty of an offence[1], and I believe that the statements made are true and correct at the time made.

5 Signature of person making the statement

6 Place
7 Day
8 Month and year

Made at [6] on [7] of [8]

Before me,

9 Signature of person before whom the statement is made

9

10 Full name and address of person before whom the statement is made (in printed letters)

10

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[1] Criminal Code 2002; *Civil Law (Sale of Residential Property) Act 2003*; *Residential Tenancies Act 1997*

Schedule 2 Energy efficiency rating statement star bands

Point score (inclusive)	Energy efficiency rating (star value)
Equal to or less than -87	0
From -86 to -71	0.5
From -70 to -57	1
From -56 to -46	1.5
From -45 to -35	2
From -34 to -26	2.5
From -25 to-18	3
From -17 to -11	3.5
From -10 to -3	4
From -2 to 4	4.5
From 5 to 10	5
From 11 to 16	5.5
Equal to or greater than 17	6

Schedule 3 Alternative energy efficiency rating and energy efficiency certificate star bands

Combined adjusted heating and cooling loads in megajoules per square metre (MJ/m^2)[1]	Energy efficiency rating statement (star value)[2]
Equal to or greater than 958	0
From 957 to 793	0.5
From 792 to 658	1
From 657 to 548	1.5
From 547 to 459	2
From 458 to 388	2.5
From 387 to 331	3
From 330 to 285	3.5
From 284 to 248	4
From 247 to 217	4.5
From 216 to 190	5
From 189 to 166	5.5
From 165 to 0	6

Note 1 All ranges are inclusive.

Note 2 The relevant whole number must be reported.

Schedule 4 Zoning and assigning conditioned space

Definition of space	Zone Type
A general living area, including a living area containing a kitchen area	Conditioned
A kitchen	Conditioned
A bedroom or study	Conditioned
An ensuite	Conditioned
A walk-in wardrobe or closet	Conditioned
A toilet room, bathroom, laundry, powder room or the like ventilated by mechanical means or without direct natural ventilation to the room, such as from windows	Conditioned
A toilet room, bathroom, laundry, powder room or the like with direct natural ventilation	Unconditioned (utility)

Schedule 5 Calculation of tree dimensions

The formula for calculating the averaged diameter (d_{av}) of a tree is—

$$d_{av} = c \div 3.14$$

where—

c is the circumference of the trunk or trunks at 1 metre above natural ground height; and

3.14 is a proxy for the value of π (pi)

Schedule 6 Sub floor ventilation types

Definition	Sub floor ventilation type input value
A sub floor space with a perimeter wall to the sub floor that fully encloses the space.	Enclosed
A sub floor space with no sub floor walls to enclose the space, including a floor above a basement car park that is enclosed or a floor above a fully enclosed garage.	Open
A sub floor space with no sub floor walls to enclose the space with a distance greater than 2.0m between the ground and the floor level, including a floor above an open garage or carport.	Elevated

Schedule 7 Roof ventilation

Definition	Roof type input value
A formed roof space with a tiled roof	Attic-standard
A formed roof space with a metal deck roof or a tiled roof with sarking	Attic- low ventilation
A formed roof space with roof ventilators added	Attic- vented
A flat roof that includes cathedral and raked ceilings	Flat - framed

Schedule 8 Air infiltration and air leakage input values

Element	Description	Input Value
Main entry door, external door or a door to an unconditioned (utility) rooms	Spaces around an external hinged door to an unconditioned room excluding a sliding door	Unsealed unless the presence of intact weathersealing is confirmed by a visual inspection.
External sliding door	Spaces around any external sliding door	Unsealed unless the presence of intact weathersealing is confirmed by a visual inspection.
Windows	Spaces between the window and the wall construction	For windows that comply with AS 2047, timber and aluminium windows are to have a gap size set as medium. All other windows must have a gap size set as large unless presence of intact weather sealing confirmed by a visual inspection.
Roof Lights (Skylights)	Openings in the roof and/or ceiling to allow natural illumination	Vented unless deemed otherwise by a visual inspection. Skylights without a diffuser are to be modelled as permanently vented.
Exhaust fans to kitchen and utility rooms	Openings around kitchen and utility room exhaust fans	Unsealed unless deemed otherwise by a visual inspection. The exact number of exhaust fans in the dwelling must be specified.
Wall and ceiling vents	Fixed vents in wall and ceiling construction.	All wall and ceiling vents are to be included as installed in the rating. Windows to utility rooms with fixed vents must be entered as a room vent.
Chimneys	Air infiltration to a dwelling through a chimney	Unsealed unless deemed otherwise by a visual inspection.
Vented downlights	Vented luminaires including incandescent, halogen and compact fluorescent lights that are flush mounted with the ceiling.	Unsealed. If a recessed luminaire barrier tested and certified in accordance with AS/NZS *3820 Essential safety requirements for electrical equipments* as in force from time to time or AS/NZS 5110 *Recessed luminaire barriers* as in force from time to time covers the luminaire is installed so that it abuts the insulation leaving no gaps the downlight may be entered as sealed. The exact number of downlights in the dwelling must be specified.

Schedule 9 Approximate resistance values (R values) of uncompressed insulation

Calculation and measurement of resistance values

1. An assessor may take the thickness of insulation in a delineated building element, such as a ceiling, by measuring the thickness of the insulation level at a minimum of one point per 100 square metres, if the assessor determines and is satisfied on reasonable grounds that the thickness is a representative thickness of the likely nominal thickness of insulation for the element.

2. A gap in the insulation need not be measured around a recessed luminaire if—

    a. a recessed luminaire barrier is present and covers the luminaire; and
    b. evidence that it is tested and certified in accordance with Australian /New Zealand Standard 3820 *Essential safety requirements for electrical equipment* as in force from time to time or Australian /New Zealand Standard 5110 *Recessed luminaire barriers* as in force from time to time exists; and
    c. the barrier is installed so that it abuts the insulation leaving no gaps between the barrier and the insulation.

3. For a recessed luminaire that is not covered by a recessed luminaire barrier complying with (2), a gap in the surrounding insulation must be assessed as the greater of—
    a. the dimensions of the barrier; or
    b. for horizontal clearances to a combustible building element, 200mm; or
    c. for horizontal clearances to bulk thermal insulation, 50mm in all directions; or
    d. for horizontal clearances to auxiliary equipment, 50mm.

4. All insulation thickness values must assessed as an 0.25mm increment, with the initial value rounded down where required.

5. For bulk insulation materials at thicknesses identified in table 10.1, the resistance value is the value specified in the table for the thickness of the insulation material, being the value rounded down to a 0.25mm increment.

6. Where the insulation material is identified in the table but a thickness value comparable to the thickness of the material installed is not specified, the resistance value must be calculated using the value of the material at 100mm and multiplied by the appropriate number to give the correct thickness to a 0.25mm increment.

    Example 1 — A ceiling is insulated with a thickness of 225mm of wool (loose fill). The R value of wool (loose fill) at 100mm in Table 9.1 is R 1.25. 225mm is 2.25 times a thickness of 100 (2.25/100 = 2.25), therefore R value is 2.25 x R1.25 or 2.81. Rounding to the nearest R value gives a resistance value of R2.75.

    Example 2 —A wall is insulated with 10mm of extruded polystyrene. The R value of extruded polystyrene at 100mm in Table 9.1 is R 3.5. 100mm is 0.1 times a thickness of 100 (10/100 = 0.1), therefore R value is 0.1 x R3.5 or 0.35. As this value is below the effective R value of 0.5 allowed by clause (4) the effective resistance value of insulation is zero.

7. Values resulting in a resistance value below 0.5 must be calculated as an effective level of 0.

8. For other materials not identified in table 10.1 a resistance value derived from testing in accordance with AS/NZS 4859.1:2002 *Materials for the thermal insulation of buildings - General criteria and technical provisions* may be used to calculate resistance value of the material.

Table 9.1

Insulation thickness as installed		**25mm**	**50mm**	**75mm**	**100mm**	**125mm**	**150mm**	**175mm**
Insulation Material	**Conductivity**	**Approximate R value of uncompressed insulation***						
Glass fibre (low density 7kg/m3)	**k=0.057**	0.50	0.75	1.25	1.75	2.25	2.50	3.00
Glass fibre (high density 12kg/m3)	**k=0.044**	0.50	1.25	1.75	2.25	2.75	3.50	4.00
Rockwool	**k=0.040**	0.50	1.25	1.75	2.5	3.00	3.75	4.25
Polyester (low density 8kg/m3)	**k=0.063**	0.00+	0.75	1.25	1.50	2.00	2.25	2.75
Polyester (high density 16kg/m3)	**k=0.045**	0.50	1.00	1.75	2.25	2.75	3.25	4.00
Wool (loose fill)	**k=0.08**	0.00+	0.50	1.00	1.25	1.50	1.75	2.25
Cellulose fibre (loose fill)	**k=0.04**	0.50	1.25	1.75	2.5	3.00	3.75	4.25
Polyethylene foam	**k=0.04**	0.50	1.25	1.75	2.5	3.00	3.75	4.25
Polystyrene (expanded)	**k=0.039**	0.75	1.25	2.00	2.50	3.25	3.75	4.50
Polystyrene (extruded)	**k=0.028**	1.00	1.75	2.75	3.50	4.50	5.50	6.25

*Values are rounded to the nearest 0.25 increment.

+ values below 0.5 have been rounded to 0.

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Schedule 10 Determination of insulation R-values where no evidence is available

1. Where the presence of bulk wall insulation has been verified but the initial R value could not be determined an R value of 1.0 must be assumed.

2. For all other circumstances the initial R value of bulk insulation must be determined in accordance with table 10.1.

Table 10.1

	Maximum insulation values to be assumed		
Approval issued under the building code version	**Floor**	**External Walls**	**Roof and Ceiling**
Prior to BCA 1990 Amend 5	R0	R0	R0
BCA 1990 Amend 5 01 September 1993. ACT Part F6	R0	R0	R1.5
	Note: the ACT building code required a "reasonable level" of insulation must be provided to conserve energy used for the internal heating and cooling of residential buildings. In most cases insulation was only installed to the ceiling cavity.		
BCA 1994 Amend 10 01 November 1994. Table F6 Minimum *overall* R value	R0.5 If an exemption for underfloor spaces where unrestricted access for the installation of insulation is not available after the completion of the construction applied – R0	For cavity brick construction R0 For all other construction - R1	R1.5 If an exemption for roof spaces where unrestricted access for the installation of insulation is not available after the completion of the construction applied – R0
BCA 1996 Amendment 0 01 July 1997. Minimum *insulation* R value only	For a suspended timber floor R0.5 If an exemption for underfloor spaces where unrestricted access for the installation of insulation is not available after the completion of the construction – R0	For cavity brick construction R0 For all other construction - R1	For a ceiling cavity - R1.5 For an exposed raked ceiling - R1 If an exemption for roof spaces where unrestricted access for the installation of insulation is not available after the completion of the construction applied – R0
BCA 1996 Amendment 3 01 July 1998. Minimum *insulation* R value only	R0.5	For cavity brick construction R0 For all other construction - R1	For a ceiling cavity - R1.5 For an exposed raked ceiling - R1
BCA 2006, 2007, 2008 or 2009	R1 for an unenclosed sub floor. R0.5 for an enclosed sub floor.	R1	R2
BCA 2010	R1 for an unenclosed sub floor. R0.5 for an enclosed sub floor.	R1	R2.5
BCA 2012 onwards	R2.0 or an unenclosed subfloor. 1.0 for an enclosed subfloor	R1.5	R4.0

Schedule 11 Reduction in R-values for gaps in ceiling insulation

Table 11.1

% reduction	Effective resistance (R) value										
0%	**<0.5**	**0.5**	**0.75**	**1.00**	**1.25**	**1.5**	**1.75**	**2.0**	**2.25**	**2.5**	**2.75**
Up to 1%	0	0.5	0.7	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4
Up to 1.5%	0	0.5	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.2
Up to 2%	0	0.5	0.7	0.9	1.1	1.3	1.5	1.6	1.8	1.9	2.0
Up to 2.5%	0	0.5	0.7	0.9	1.1	1.2	1.4	1.5	1.6	1.7	1.7
Up to 3%	0	0	0.7	0.8	1.0	1.1	1.3	1.4	1.4	1.4	1.4
Up to 4%	0	0	0.6	0.8	0.9	1.0	1.0	1.0	1.0	0.8	0.6
Up to 5 %	0	0	0.6	0.7	0.8	0.8	0.8	0.6	0	0.0	0
5% or greater	0	0	0	0	0	0	0	0	0	0	0

% reduction	Effective resistance (R) value										
0%	**3.0**	**3.25**	**3.5**	**3.75**	**4.0**	**4.25**	**4.5**	**4.75**	**5.0**	**5.25**	**5.5**
Up to 1%	2.6	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.8	4.0	4.1
Up to 1.5%	2.4	2.5	2.6	2.7	2.8	2.9	2.9	3.0	3.0	3.0	3.0
Up to 2%	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8	1.6
Up to 2.5%	1.8	1.7	1.7	1.6	1.5	1.3	1.1	0.9	0.5	0	0
Up to 3%	1.4	1.3	1.1	0.9	0.6	0	0	0	0	0	0
Up to 4%	0	0	0	0	0	0	0	0	0	0	0
Up to 5 %	0	0	0	0	0	0	0	0	0	0	0
5% or greater	0	0	0	0	0	0	0	0	0	0	0

Schedule 12 Assessment of internal window coverings

1. For a value to be entered drapes or curtains must fully cover the window and form part of an enclosure of the layer of air between the drape or curtain and window to minimise air movement caused by convection air currents and air movement cause by heating, ventilation and cooling systems, fans, or use of the room as follows—

    a) the curtains or drapes are fully within and abut the window recess (reveals) and abut the reveals, head and sill; or
    b) the curtains or drapes overlap side edges of the window by at least 150mm or abut a return wall if the window is in a re-entrant corner; and
    c) where drapes or curtains extend down to a sill, floor or floor covering to cover a window, the gap between the top of the sill, floor or floor covering and the bottom of the drape or curtain must be 10mm or less; and
    d) openable parts of the curtains or drapes must close together with no, or with negligible, gaps.

Input value	Description
No curtains	No window coverings present. This value is to be used as a default input for all windows unless deemed otherwise by a visual inspection.
Equivalent internal window covering for open weave, venetian blind, vertical blinds, holland blinds	Open weave fabric is woven so that warp threads rarely abut each other, leaving interstices in the fabric, which includes lace, sheer or net fabrics. Open weave curtains provide negligible change to window U-values.
Closed weave curtains	An unlined curtain made from a close weave fabric. Closed weave curtains have threads or yarns that generally abut, producing a fabric with negligible interstices. Light, air and water pass through a closed weaved cotton fabric, but with significant filtering, unless the fabric is treated to block their passage; and they prevent visual detail being seen by eye through their fabric if woven from opaque thread or yarn. Closed weave curtains do not include open weave curtains.
Heavy drapes	A heavy drape must be lined with a close weave heavy weight fabric. Heavy drapes permit no or negligible visible or UV light to pass through their fabric, which may include a composite of layered materials. They also do not readily allow air to pass through. They include closed weave heavy fabrics, such as velvet or velour or heavy cotton or comparable synthetics, with a rubber, acrylic, or similar, solar blocking backing layer bonded to the fabric. The presence of a light source, including the sun, cannot be detected by eye through the fabric. A requirement of heavy drapes is to have sufficient inertia to maintain a barrier to air movement by remaining relatively stationary in a draft. If the covering does not meet this criterion the heavy drape is deemed to be a closed weaved curtain.
Curtain and pelmets	A lined curtain with a close weave fabric that includes a pelmet.

Input value	Description
	Pelmets must be box pelmets and must work in combination with the curtain or drape to enclose the top of a curtain or drape to prevent air plunging by convection from beside or above the pelmet to the window, and must extend to the width of the window plus any required curtain overlap of the window edge. It must overlap the top of the curtain by 50mm or more.
Heavy drapes and pelmets	A heavy drape is assumed to be a close weave heavy weight fabric which is lined. The pelmet must, extend either side of the window by a minimum of 300mm extend to the floor and be covered at the top by a closing fitting pelmet. If the covering does not meet this criterion the covering is deemed to be a curtain and pelmet. Pelmets must be box pelmets and must work in combination with the curtain or drape to enclose the top of a curtain or drape to prevent air plunging by convection from beside or above the pelmet to the window, and must extend to the width of the window plus any required curtain overlap of the window edge. It must overlap the top of the curtain by 50mm or more.

Schedule 13 External shading devices

In this schedule:

summer eave means the "fixed and adjustable" value in some versions of the energy efficiency rating software and represents the shading provided by the external shading device while fully extended.

winter eave means the level of shading provided in winter by external shading devices, also referred to as the "fixed" eave in some versions of the energy efficiency rating software, where all adjustable shading devices are fully retracted.

solar transmission means the measure of how much light a material will transmit compare to a completely clear space.

A Adjustable shading devices

This section applies if a window is shaded by an adjustable shading device but no fixed shading devices.

1. The winter eave is to be entered as a value of 0.
2. The summer eave is calculated as—
    a. For horizontal shading devices the horizontal distance of the shading device when fully extended.
    b. For all other shading devices, the vertical height of the window covered by the shading when fully extended.

B Fixed and adjustable shading devices

This section applies if both fixed and adjustable shading are present over a window

1. The winter eave width is to be the width of the fixed eave only.
2. The summer eave width is calculated as—
    a. For horizontal shading devices the horizontal distance from the end of widest part of the shading to the window; or
    b. For all other shading devices the vertical distance of the window covered by the shading when all shading devices are fully extended to a maximum of the vertical window height.

Note Both a summer and a winter eaves value must be entered.

C Pergolas – section 50(5)

1. Summer eave width

A summer eave width shall be calculated using the following formula—

Eave width = eave + pergola depth x (1- *solar transmission coefficient*)

2. Winter eave widths

A winter eave width shall be calculated using the following formula—

Eave width = eave + pergola depth x (1- (solar transmission *coefficient*)^2)

3. Solar transmission factors

The solar transmission coefficient is—

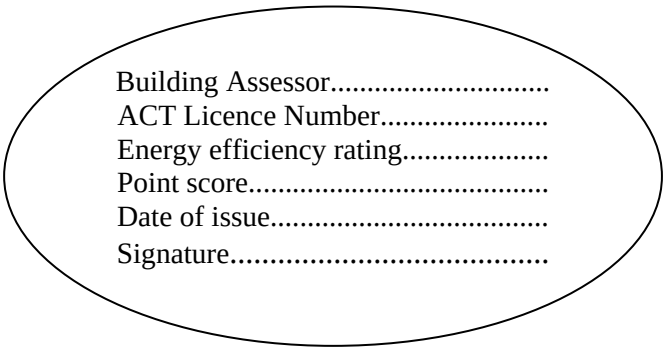
(a) the solar transmission coefficient published by the manufacturer of the window covering; or

(b) the most appropriate nominal coefficient for the window covering from Table 13a.

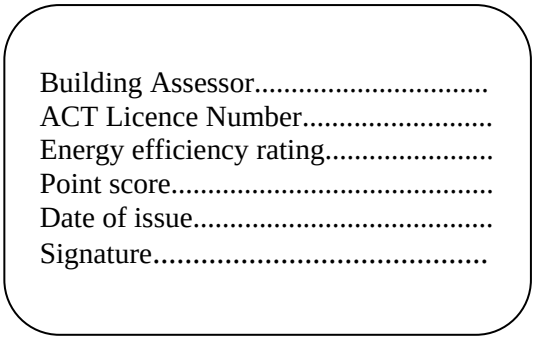
Table 13a

Window covering	Solar transmission coefficient
Clear glass	0.7
Light tinted glass	0.5
Fibre glass	0.5
Dark tinted glass	0.3
Shade cloth	0.1
All other materials	0.7

(a)



(b)



Note the name of the business and/or its logo may be included above or below the required information in the mark but must not be placed within or obstruct the required information.

Example