

5 Star Fact Sheet for Timber Floors



The introduction of the new 5 Star standard on 1 July 2004, means that all new homes in Victoria will now be more energy and water efficient, reducing greenhouse gas pollution and saving our precious water resources. 5 Star homes will also save homeowners money on their heating, cooling and water bills.

Trained house energy raters, accredited by the Sustainable Energy Authority, assess proposed new homes. Most energy raters use the software FirstRate. As they have begun to use the software, some misperceptions about whether timber floored homes can achieve the 5 Star standard have arisen. These misperceptions are incorrect; homes with timber floors can meet the standard. This fact sheet provides information about the 5 Star standard and timber floors.

How can you achieve 5 Star compliance?

From 1 July 2004, the building industry has the following regulatory options for demonstrating compliance with 5 Star.

Option 1

5 Star energy rating for building fabric provided by an accredited house energy rater.

Option 2

4 Star energy rating for building fabric; plus water savings measures and either a solar hot water system or a rain water tank.

These compliance options are available for a 12-month transition period, and allow flexibility in the way builders choose to meet the requirements of the standard.

From July 2005, compliance with the 5 Star standard will require:

- 5 Star energy rating for building fabric; plus water savings measures; and
- A rain water tank or a solar hot water system.

These options give Victorians flexibility in the way they choose to improve the environmental sustainability of their homes.

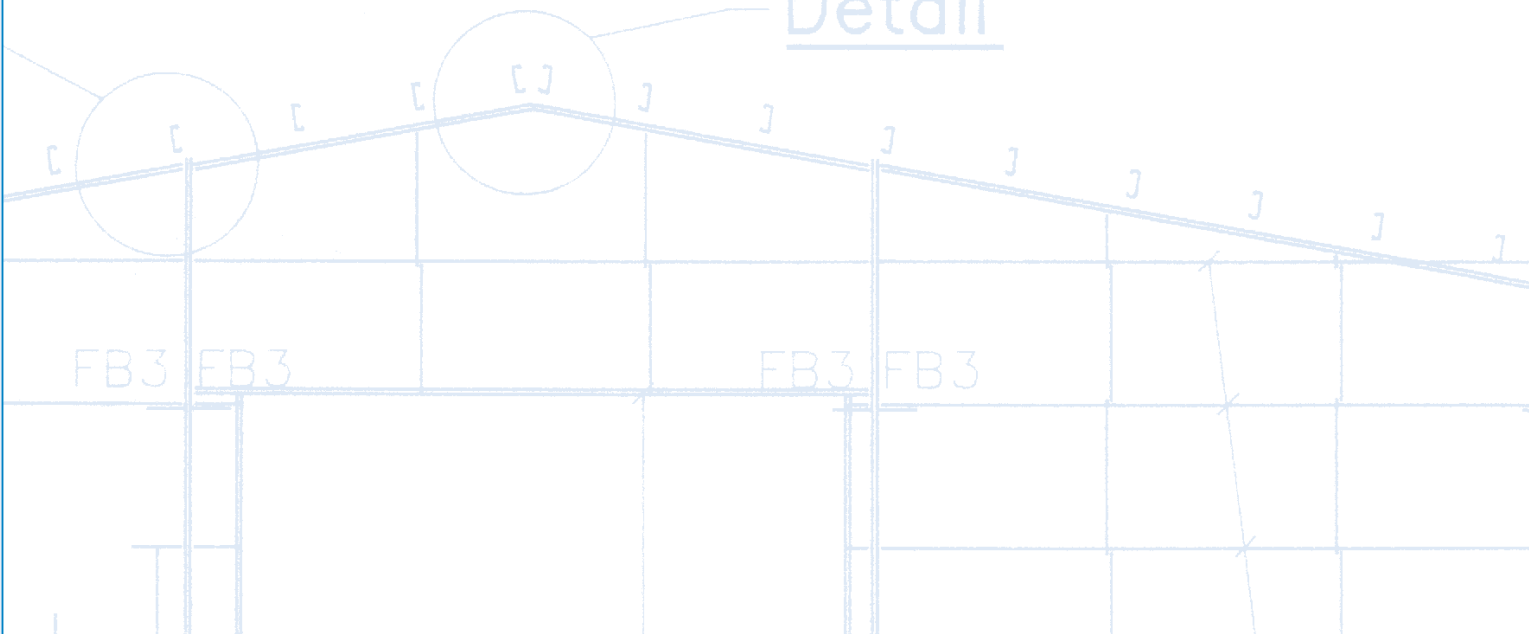
Can timber floored houses achieve a 5 Star energy rating?

Yes, they can. Timber floored houses can achieve a 5 Star energy rating, and there are many examples of 5 Star homes with timber floors throughout Victoria. Because 5 Star is a performance based standard, a wide range of options are available to designers in achieving the required energy rating, irrespective of the type of construction.

Is achieving a 5 Star rating with a timber floor difficult or expensive?

No. Your energy rater can give you a range of options to consider without compromising your design or having to change from a timber floor.

Detail



Building Commission is a professional, so forward thinking body. It strives to create through its leadership, its partnership.

What is the best way to achieve a 5 Star energy rating using a timber floor?

The process for achieving a 5 Star rating is very flexible and while there is no single formula for obtaining a specific energy rating, a range of features can be used. These include: building orientation; wall/ceiling insulation; window type, size, positioning, shading and thermal performance; as well as floor products/insulation. Of course, the approach to successfully designing an energy efficient lightweight house with timber flooring will be different to the approach that works best for a design with high thermal mass, such as double brick on a slab floor.

Good building practice suggests that draughts should be minimised wherever possible. Typically, R3.5 ceiling and R2 wall insulation levels will be needed. To minimise the heat loss through the floor, consider insulating under the floor. A range of insulation products are currently available.

Insulating under the floor may be unnecessary if other aspects of the design, such as windows, are addressed.

Good window design is important for all 5 Star houses, particularly those with timber sub-floors.

- To minimise heat uptake in summer, east or west facing windows may need to be shaded from the summer sun with eaves or external blinds.
- For winter, a number of energy efficient options are available, including:

> Thermally improved windows for some or all windows. This includes the choice of window frames used and/or

the type of glass. For example, double-glazing can dramatically reduce winter heat loss. Using double-glazing also overcomes the need to reduce window sizes (particularly on south facing windows).

- > Maximising north facing glass to help heat the house in winter (north facing glass should be shaded in summer using pergolas, external awnings or the like).

Tailoring the design to the site and orienting the house to make use of the winter sun are also particularly useful in achieving an energy efficient, 5 Star outcome.

Are there some types of construction that are more suited to particular sites?

There are many factors to consider when deciding which flooring system to use. The nature of the site can often influence the construction solution and materials selected. For example, is the site flat or sloping, does it have exposed rocky outcrops, is it subject to flooding or do the specifications/client brief call for a particular aesthetic quality?

On a flat, non-flood prone site, either a concrete slab on ground or a raised timber sub-floor are an option.

However, for both low lying, flood prone areas and sloping sites, raised sub-floors may provide a more appropriate option. On sloping sites, suspended floored building systems sit on the landscape, reducing the need for bulk site excavation, retaining walls and specialised drainage to control soil erosion. In low lying areas, raised sub-floors raise the occupants and their belongings above potential water damage levels.

Do sub-floor construction systems provide any other benefits?

Raised sub-floors (whatever the material utilised) allow easy access for under-floor ducted heating (where systems cannot be ducted underfloor, larger ceiling registered systems may need to be utilised), easier construction of split-level designs and greater adaptability for extensions.

For general information please visit www.5starhouse.vic.gov.au

For more information on the 5 Star building regulations visit the Building Commission website at www.buildingcommission.com.au or call 1300 360 380

For more information about designing a 5 Star house and energy rating training and accreditation, visit the Sustainable Energy Authority website at www.seav.vic.gov.au or call 1300 363 744

For more information about plumbing and water fixtures, visit the Plumbing Industry Commission website at www.pic.vic.gov.au or call 1800 015 129