

What you need to know about 6 Star



6 Star

for new homes, home renovations,
alterations, additions and relocations



Introduction

From 1 May 2011, all new homes, home renovations, additions, alterations and relocations in Australia will need to comply with the 6 Star Standard. This sees Victoria align with national energy efficiency standards.

The 6 Star Standard applies to the thermal performance of a home, renovation or addition, as well as requiring the installation of a solar hot water system or a rainwater tank for toilet flushing.

As a flexible, performance-based standard, 6 Star allows homeowners, builders and designers enormous choice in meeting the requirements.

Some simple building work, not requiring a building permit, will not be affected by the new regulations. However, if you are intending to build, renovate or extend your home or re-locate an existing home after 1 May 2011, you will need to comply with the 6 Star Standard.

Why the regulations?

With the impacts of climate change and global warming widely accepted as a reality, both the Victorian and Australian governments have responded to the challenge by setting targets for the reduction of greenhouse gas emissions.

Part of addressing these targets is to set energy efficiency requirements for residential housing. Energy efficiency requirements make owning and renting a home more achievable by lowering running costs.

Well designed 6 Star homes don't look any different to your average home but are projected to use 24 per cent less energy for heating and cooling compared to 5 Star homes. This will see Victorians saving a further \$100 off their energy bills each year.

This is only an average saving. Residents who use their energy features in their home wisely will save even more. For example, residents of new homes who install a rainwater tank use 20 per cent less reticulated drinking water.

Overall these regulations ensure that we are benefitting our wider society by advancing the sustainability of our built environment and reducing greenhouse gas emissions.

How do the regulations apply?

From 1 May 2011 the 6 Star Standard applies to all new houses and townhouses (Class 1 buildings); new apartments [Class 2 buildings], and enclosed garages (Class 10a buildings) attached to class 1 buildings. The requirement also applies to new work done on existing buildings, such as additions, alterations or re-locations.

A 6 Star energy efficiency rating applies to your home's building envelope - its roof, walls, floor and windows. The installation of a solar hot water system or a rainwater tank for toilet flushing is not mandatory for Class 2 buildings. The 6 Star requirements also include efficiency standards for fixed lighting but not plug in appliances provided by homeowners.

For most houses, achieving 6 Star requires a few simple improvements to the standard design and construction of a home. The 6 Star Standard is designed to be a flexible standard – it is performance-based rather than prescriptive. This means designers and builders can use their creativity to meet homeowners' requirements of being cost-effective, functional and aesthetic.

Renovation & relocations regulatory requirements

Type of work	Compliance required	Entire building to comply?	Building surveyor discretion?
Building renovation work including extensions less than (the lesser of) 1000m ² or 25% of existing floor area	Yes	No*	Yes
Building renovation work that represents more than 50% of the original volume of the building (including the re-erection of an existing dwelling)	Yes	Yes	Yes [^] (discretion applies to compliance of both the alteration work and the remainder of the building)
Building renovation work that is an extension with a floor area greater than (the lesser of) 25% of floor area of the existing building or 1000m ²	Yes	No*	No

*Subject to the alteration not triggering the 50% rule.

[^] If the alteration includes an extension that exceeds the size described in the row below, the discretion only applies to the requirement to bring the remainder of the building into compliance.

Scenarios

Here are some scenarios that consumers and building practitioners will likely come across.

Scenario 1

Size of the alteration – does it matter?

Q If I'm undertaking building work for an alteration to an existing home and it's over 50 per cent of the volume of the existing home - which means the whole house needs to be brought up to 6 Star - does this mean that I need to go back and insulate old walls?

A As a starting point people undertaking an alteration that is more than 50 per cent of the volume of the existing building, will need to make their home comply with the new requirements, unless their building surveyor agrees to a lesser standard. This means achieving a 6 Star building fabric using software or complying with the provisions set out in the Building Code of Australia.

However, the regulations provide the building surveyor issuing the building permit discretion to allow partial compliance in certain circumstances. If the interior of the house is being gutted, then there is an opportunity to install insulation and this would be expected. However, if it is considered financially onerous (compared to the resulting benefit) or technically not possible, the building surveyor can approve an alteration that only partially complies.



Scenario 2

Small renovations – what is exempt?

Q If you, or your client, are wishing to have building work carried out for a small renovation and you are unsure as to whether the work is exempt from the regulations, where should you go for information?

A In the first instance, contact your local council's Municipal Building Surveyor or a Private Building Surveyor to find out if you need a building permit. Some simple maintenance projects or non-structural works that do not require a building permit will not be affected by the regulations. If you are intending to undertake a small renovation that requires a building permit the work will need to comply. However, a building surveyor can allow partial compliance in certain circumstances.

Scenario 3

Large extension – Can I design for partial compliance?

Q I am going to build quite a large extension on the back of my house. Does the building surveyor have the same discretion to allow partial compliance?

A If an extension is more than 25 per cent of the floor area of the existing house or over 1000m² (whichever is the lesser) then the extension must comply. The building surveyor has no discretion to allow partial compliance. There is no requirement for the existing building to comply other than as outlined in Scenario 1.

Scenario 4

Past renovations – does this matter?

Q You, or your client, completed a renovation of the existing home two and half years ago which was equated to 30 per cent of the volume of the existing building. You, or your client, are undertaking another renovation after 1 May 2011 which is also equivalent to 30 per cent of the volume of the existing building - must the whole home now meet 6 Star?

A The only time the existing building needs to be considered for upgrading to comply with current regulations is where there is an alteration or extension taking place to that building. If the building was renovated two and half years ago and that renovation, in combination with a renovation after 1 May 2011, totals a volume greater than 50 per cent of the existing building then the whole of the building would need to comply. Even in this instance, there are certain circumstances where the relevant building surveyor has discretion to allow partial compliance where the requirement is overly onerous, technically impractical or does not provide a level of benefit commensurate with cost.

Where to go next

Victorians who intend to build, renovate, extend or relocate a home should contact a building designer, builder or building surveyor for advice on 6 Star compliance.

When renovating or extending, you will need to demonstrate that your plans meet the 6 Star Standard. The relevant building surveyor will then issue a building permit based on this. The building surveyor may conduct inspections throughout the construction process to make sure the requirements are being met.



6 Star is about good design, some simple adjustments at the design stage can go a long way, consider the following:

- Building orientation and internal zoning
 - Insulation levels
 - Thermal mass and shading
- Windows' thermal performance, sizing and location
- Weather stripping, sealing the building envelope
 - Energy efficient lighting.

Tips to reach 6 Star

Meeting 6 Star compliance is not difficult; it's about good design, particularly at the planning stages of the project. Research conducted by the Building Commission showed that the average rating of new Victorian homes was already 5.4 Stars in 2008, so the step up to 6 Stars should not be particularly challenging for designers.

Many leading builders and developers are already offering consumers competitively priced homes with 6 and 7 Star energy performance and beyond.

Talk to your building professional early in your building project to take advantage of the benefits, such as increased comfort, cost savings on energy bills and making your home more resilient to climate change. It is also beneficial to look at design options that go beyond minimum regulatory requirements – your investment will pay off in the long run through lower energy bills and higher resale value.



Here are some tips:

- ★ The key to 6 Star is good design, so work closely with your designer or builder, and remember to use a Registered Building Practitioner.
- ★ Consider your home's orientation by having living spaces positioned to make the most of northerly sunlight through appropriate window orientation, sizing and shading. Carefully selecting your site so your home's orientation takes advantage of solar energy can help you achieve up to 1 Star of your rating.
- ★ Insulate the walls, ceilings and suspended timber floors to reduce heat losses in winter and heat gains in summer; insulation is a very cost effective means of improving a building's performance.
- ★ Design your home to complement its construction. Houses with concrete slab floors and those with suspended timber floors each perform differently in summer and winter. For example, carpet can provide timber floored homes with extra floor insulation for warmth in winter whereas tiles on a concrete slab will make it easier for the floor to store solar energy collected through good passive design.
- ★ Consider the internal layout of your home to enhance energy efficiency, such as locating windows opposite one another to create cool breezes, and minimising large stairwells so your home does not lose valuable warmth.
- ★ Utilize windows to improve energy efficiency through attention to size and location, and by making use of the large range of high performance energy efficient glazing products on the market.
- ★ Make better use of the sun by shading windows in summer with eaves, external blinds and tailored landscaping.
- ★ Install the best available water-saving showerheads, taps and fittings.
- ★ Install energy efficient lighting, the more energy efficient the greater the savings you will achieve.

Need more information?

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