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The Green Building Council of Australia recognises environmental advances by Australian PVC manufacturers.

The Green Building Council of Australia (GBCA) has a set of building rating tools known as Green Star which has achieved widespread acceptance by developers and governments to assess and rate the environmental performance of buildings. These tools were introduced in 2003 with a PVC minimisation clause that awarded points for reducing the value of PVC products used in building.

In late 2007, the GBCA commenced a stakeholder engagement process to review the PVC minimisation credit. In 2009 the GBCA established an Expert Reference Panel to systematically review Australian and international information relating to the PVC life cycle. The review released in January 2010, is detailed in the GBCA report "Literature Review and Best Practice Guidelines for the Life Cycle of PVC Building Products". The review included input from some 40 Australian and international organisations and authors, including such bodies as the US Green Building Council, Environment Australia, State and Federal government environment departments, the European Commission and the World Health Organisation.

The report found that significant achievements had been made within the PVC industry in Australia in recent years.

"A rigorous PVC literature review revealed that where international opposition to PVC remained it was based on historical industry practices which had led to unacceptable health risks and/or environmental impacts. These concerns did not take into account the significant achievements within the PVC industry in recent years, particularly in Australia and Europe, to reduce the environmental and human health risks previously associated with PVC building materials. In addition, these concerns did not reflect the findings of independent scientific assessments, as well as comparative risk and impact studies, between PVC and non-PVC alternative materials."¹

The PVC literature review found that, while there are still some challenges to be addressed, PVC performs as well as, or better than, the alternatives in most product categories. Furthermore, it found that environmental and human health risks associated with PVC can be minimised by using best practices in the manufacturing and end-of-life management phases of the PVC life cycle.¹

Changes to Green Star for PVC

In April 2010, the GBCA introduced the new PVC credit to all the Green Star tools which effectively:

- removed the minimisation approach. PVC in general will not be penalised when used in projects in recognition of the fact that "PVC performs as well as, or better than, the alternatives in most product categories"¹ - this is definitely the case for PVC pipe.
- adopts a new approach which rewards the use of "best practice" PVC. The new credit encourages the use of independently verified "best practice" PVC products with the potential award of up to two additional credit points where such products are used.
 - I. One additional credit point where 60% of PVC products (by cost) complies with the independently verified Best Practice Guidelines for PVC in Built Environment
 - II. Two additional credit points where 90% of PVC products comply

For more information on the Green Building Council of Australia changes, see www.gbca.org.au

1. GBCA "Background and Outcomes of the Green Star PVC Minimisation Credit Review"

Best Practice PVC Pipe in the Australian Built Environment

Vinidex PVC pipe ticks the boxes ✓

The Best Practice Guidelines for PVC in the Built Environment have been developed by the GBCA. The guidelines cover the environmental impacts and health risks associated with the manufacture and end life management of PVC products used in buildings. They include strict minimum compliance requirements for PVC supply chain constituents, PVC resin production, PVC product manufacture and end of life management – recycling.

The Australian Standards that cover PVC pipe and fittings are being amended to incorporate the GBCA Best Environmental Practice requirements. A number of amended standards have already been published.

Vinidex pipe and fittings products that comply with the GBCA Best Environmental Practice requirements are available now. In order to demonstrate compliance with the GBCA best practice requirements for Green Star projects, the GBCA accept a written declaration of compliance on a project by project basis. Vinidex can provide the necessary declaration. A declaration will be acceptable for all projects registered before 1st March, 2012 after which only product from suppliers that have independent certification to the GBCA Verification Guidelines will be acceptable. Vinidex is working towards achieving this certification.

Some facts about Vinidex PVC pipe and fittings:

- ✓ Vinidex PVC pipe is rigid and has no plasticisers, so no phthalates in PVC pipe
- ✓ Much of Australia's PVC raw materials are already sourced from non mercury based production
- ✓ The GBCA best practice guidelines will require independent certification of these sources.
- ✓ Australian PVC pipe standards are the only National Standards worldwide to exclude heavy metal stabilisers - another GBCA best practice requirement.
- ✓ No lead, cadmium or mercury based compounds are added to Vinidex PVC pipe.
- ✓ Australian PVC pipe standards set the lowest VCM thresholds of any national standards worldwide at 1ppm
- ✓ Vinidex is a world leader in oriented PVC pressure pipe technology. Supermain® oriented PVC has some key benefits for users:
 - Double the strength of the old PVC-U or PVC-M material
 - Significantly improved impact and point load resistance
 - High strength means around 50% less material is required for the same pressure class - so less demand on raw materials, lower energy required to transport and easier handling
 - Thinner wall thickness means larger internal bore and better hydraulic performance
 - Supermain® oriented PVC has the lowest embodied energy of any of the competing reticulation pressure pipe systems - confirmed by the CSIRO.²
- ✓ Vinidex PVC structured wall and multi layer non-pressure pipe for DWV, Stormwater and conduit applications:
 - Structured wall and foamed core technology means less material is used without compromising pipe performance
 - Material efficiencies around 20% save on raw materials
 - These material-efficient non-pressure options mean Vinidex PVC pipe provides the lowest embodied energy pipe options for DWV and Stormwater applications
- ✓ Durability of Vinidex PVC pipe
 - Durability has always been a strong point for PVC pipe - the Water Services Association of Australia (WSAA) rate PVC in their highest category with a life expectancy of in excess of 100 years.
 - Long life products significantly contribute to the overall sustainability of the asset because the pipe system outlasts the building
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- ✓ Vinidex PVC pipe is recyclable and is being recycled now!
 - PVC is a thermoplastic and easily recycled
 - The Australian PVC pipe industry and Vinidex have established recycling operations using the PVC pipe waste stream and turning it into new PVC pipe.
 - Like for like recycling is easily achieved with PVC pipe
 - Multilayer pipe technology is ideally suited to using recycle
- ✓ Life Cycle Analysis (LCA) looks at the total life cycle of a product.
 - PVC equals or outperforms all other commonly available pipe alternatives in both pressure reticulation and DWV applications³

2 - Piping Systems Embodied Energy Analysis, CSIRO M.D. Ambrose, G.D. Salomonsson, S Burn October 2002.

3 - LCA Australian Pipe, N. Howard, Edge Environment 2009.

Frequently Asked Questions



What has changed with Green Star and why?

The GBCA Green Star building rating system has had a 'PVC Minimisation Credit' in the materials section. This approach discouraged the use of PVC products.

The new approach sees the removal of this disincentive. All PVC pipe can now be used without attracting a "negative credit". Furthermore the new approach offers the opportunity to score up to 2 additional credit points where pipe can be shown to comply with the GBCA "Best Practice Guidelines for PVC in the Built Environment".

The GBCA moved away from the blanket minimisation approach because in their words "...the substitution of PVC did not necessarily deliver an improved environmental outcome for the built environment, as the use of some non-PVC alternative materials did not always guarantee a better environmental outcome". They went on to say "the PVC literature review also found that, while there are still some challenges to be addressed, PVC performs as well as, or better than, the alternatives in most categories". The revised approach "aims to encourage the development and use of best practice PVC material in Australia".

What does the change mean for PVC pipe in Green Star rated buildings?

All PVC pipe meeting the requirements of the Plumbing Code of Australia can now be used without attracting "negative credit points". The substitution of PVC pipe by alternatives is no longer encouraged.

If the PVC pipe being used can demonstrate independently verified compliance with the GBCA best Practice Guidelines then up to 2 additional credit points are available within the Green Star rating system. This award of additional points is based on the percentage of complying product meeting the criteria on a cost basis. If 60% of PVC used is best practice then the project will gain 1 point. If 90% of PVC used is best practice then 2 points are gained.

What is Best Practice PVC?

Best Practice PVC has to comply with certain criteria that covers aspects of PVC production, product design, use and end of life stewardship.

Where and when can I buy Vinidex PVC pipes that qualify for the additional 2 credit points?

Vinidex pipe and fittings that comply with the GBCA Best Practise requirements are available now. Vinidex can provide a written declaration of compliance which is acceptable to the GBCA as demonstration that Vinidex pipe and fittings are compliant with the Best Practise Guidelines. Declarations are valid for Green Star projects registered before 1st March 2012.



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MEMBER

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