

GREEN STAR® Design & As Built

Sustainability at OneSteel

OneSteel recognises the importance of a sustainable approach to our operations across the entire value chain, from the extraction of raw materials to the manufacture of finished steel products and distribution to our customers.

What is the Green Building Council of Australia?

The Green Building Council of Australia (GBCA) is a national not-for-profit organisation launched in 2002. The GBCA is committed to developing a sustainable property industry by encouraging the adoption of green building practices and as part of this goal has developed the Green Star® rating system.

Green Star® Design & As Built Rating Tool

The Design & As Built Rating Tool, released by the GBCA in November 2014, replaces the legacy rating tools which were previously developed for specific buildings types (Office V3, Retail Centres V1, etc). This one new tool covers the same range of building types and updates benchmarks from the previous legacy tools.

Rating System - How does it work?

Green Star - Design & As Built provides a comprehensive rating across nine categories, each containing credits which address specific issues. The rating system is a checklist of items in each credit for which points are awarded. The nine categories are management, indoor environment quality, energy, transport, water, materials, land use and ecology, emissions, and innovation.

Points from each category in the Design & As Built tool which are of equal value are combined to provide a total score which is compared to the points available and ultimately the star rating. The Green Star rating scale ranges from '4 Stars' (Australian Best Practice) to '6 Stars' (World Leadership).

How does the Design & As Built tool compare with the legacy tools?

The focus of this document is on the impact the Design & As Built tool has on steel compared to the legacy tools and the opportunities available for steel to produce more sustainable outcomes. The most significant changes are:

1. Two Pathways

There are now two pathways to achieving Material Credit points. There is a deemed-to-satisfy (DTS) path or a fully modelled lifecycle assessment. The DTS path is the easier method to directly achieve points for the sustainable use of both structural and reinforcing steels. The DTS path is familiar to most as it is similar to the Steel Credit points in the legacy tools.

2. Material credits twice the value

The Design & As Built tool values all credit points equally, unlike the legacy tools which factored the final material credits by 0.5. This means the Steel Credit points in the Design & As Built tool now have double the value in the Green Star rating compared with the legacy tools.

3. Two points available for steel

Whether it is a steel framed building or a concrete framed building, there are still two credit points available for steel. One point in the 'Life Cycle Impacts - Steel' section and one point in the 'Responsible Building Material - Steel' section.

a) The 'Life Cycle Impact' Point

The Life Cycle Impact Point rewards projects for reducing the amount of steel used when compared to standard practice.

In a steel framed building this can be demonstrated by either using higher grade steels or by reducing the mass of steel framing by 5% compared to a suitable reference building. The first option is the same as it was for the legacy tools, where 95% of Category A steel products and 25% of Category B steel products used in a project must meet the minimum strength grades specified in Table 1 and Table 2. The permanent marking of the higher strength grade which was a requirement of the legacy tools is not a requirement of the Design & As Built tool.

Table 1: Minimum Strength for Category A Products

Category A Products	Minimum Strength Grades (MPa)
Roof sheeting	550
Wall sheeting	550
Profiled-steel decking	550
Purlins	450
Girts	450
Light steel framing	450

Table 2: Minimum Strength for Category B Products

Category B Products	Standard Grades (MPa)	Minimum Strength Grades (MPa)
Hot Rolled Plate	250	350
Hot Rolled Sections	300	350
Welded Sections	300	400
Cold Formed Hollow Sections	350	450

In a concrete framed building a point is awarded for reducing the mass of steel reinforcing by 5% compared to a suitable reference case.

b) The Responsible Building Material Point

A point is awarded for steel products that are responsibly sourced or have a sustainable supply chain. The compliance requirements for this point are the same as for the legacy tools, specifically that:

- The steel making facility shall have an ISO 14001 Environmental Management System in place; and
- The steel maker supplying the steel is a member of the World Steel Association's (WSA) Climate Action Programme (CAP).

For steel framed buildings, at least 60% of the fabricated steelwork must be from a steel fabricator/contractor accredited to the Environmental Sustainability Charter of the Australian Steel Institute.

For concrete framed buildings, at least 60% of all reinforcing bar and mesh must be produced using an energy reducing process in its manufacture, such as Polymer Injection Technology.

Other Credit point opportunities for steel

The Innovation credit, with a total of 10 points available, presents a significant opportunity for project teams to be awarded additional points. Early engagement with the GBCA to discuss and agree upon the scope and dimension of the innovation challenge is crucial. OneSteel's Market Development Team can assist by providing project specific advice on utilising steel to access these points.

Further Information

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