

BETTER, FASTER, STRONGER:  
UNDERSTANDING THE  
DEMANDS OF CONTEMPORARY  
CONSTRUCTION CULTURE



## INTRODUCTION

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The Australian construction industry has been profiting from a boom period for over a year. Data suggests that this period of expansion will continue into the foreseeable future as growth in the housing and apartment sectors is met with consistent strength in the engineering and commercial space. Australian Industry Group's (AI Group) Performance of Construction Index (PCI) started 2018 on a high at 56.0 points – a marked improvement on the 50-point value in 2014 that demonstrates consistent industry growth.<sup>1</sup> This upward trend is likely to continue as investment – both local and foreign – in the Australian construction market holds steady.<sup>2</sup> Industry momentum has also increased due to soaring building approvals, which the Australian Bureau of Statistics (ABS) reports have jumped by 17.1% between December 2017 and January 2018 – more than three times the increase expected over the same period by economists.<sup>3</sup>

Designers, specifiers, architects and construction professionals are now seeking ways to maintain this period of growth for as long as possible. Three key characteristics are essential for a product or system to remain viable within the robust contemporary construction industry: speed, efficiency and performance. In this whitepaper, we explore the meaning of each of these characteristics in a practical sense, and take a closer look at how the growing demand for such qualities has led to the development of new, innovative construction products and technologies.

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## SPEED

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High levels of competition and increased demand mean that speed is a critical component of contemporary construction. Clients and investors are setting increasingly short timelines for builders and developers, meaning that construction materials and systems must respond accordingly. Short construction times can be achieved by minimising - if not eliminating - specialist skills and tools. Readily available, high-performing materials that can be installed or constructed by a general tradesperson can reduce building timelines. Additionally, construction methods and fixings which require as little large scale equipment as possible can offer significant reductions of the cost and time incurred by moving equipment on- and off-site.

However, the drive for speed must be considered in terms of compatibility and scalability. For example, the material or system chosen for construction must be suitable for use in high-rise or high-density projects with a short timeline. In such cases, modular or self-fixing systems are ideal.

ABOVE: Rondo SNAP-LOCK® Nogging

## EFFICIENCY

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To ensure that high construction speeds can be sustained without compromising the integrity of the building, efficiency should be considered in four senses: performance, cost, streamlined process, and diverse compatibility.

### Performance Efficiency

Higher performance efficiency is often the result of high product quality and durability, and in turn equates to an extended product lifespan. If a product can be expected to work for a prolonged period, it is both an investment and a sustainable solution, given that it will not require frequent replacement. When selecting a product or system, designers should look for manufacturers that provide extended product warranties, the duration of which is typically a good indication of a product's expected lifespan.

### Cost Efficiency

The cost of building should not be considered a one-off expenditure. Rather, cost efficiency must be measured relative to the initial cost outlay plus cost of maintenance during the entire life of the product. Efficiency is particularly crucial when the land value undermines the profitability of the building. Research by Arcadis<sup>4</sup> demonstrates that Sydney, Melbourne and Brisbane are amongst the most expensive cities for construction worldwide. Australia's geographic isolation results in high tariffs and shipping costs for imported materials, while the relatively small size of the population makes it a less competitively priced market.

These unchanging qualities of the Australian construction industry mean that minimising costs wherever possible is increasingly important. This can be achieved by reducing labour requirements and adopting 'Whole of Life Costing' (WLC), which takes into account the cumulative costs of a building over its entire life cycle: for example, higher quality products may have higher initial costs, but are likely to last longer than cheaper counterparts, thereby saving on maintenance and repair.

### Streamlined Construction Process

By choosing standardised materials and simple methods of construction, a short building timeline can be achieved. As mentioned above, specifying modular or readily available products will expedite the process. Furthermore, effective project management, on-site leadership, and adherence to health and safety parameters can all aid and streamline labour practices. This must be coupled with the specification of easy and efficient installation methods that require as few tools or specialised knowledge as possible in order to ensure fast, smooth project delivery.

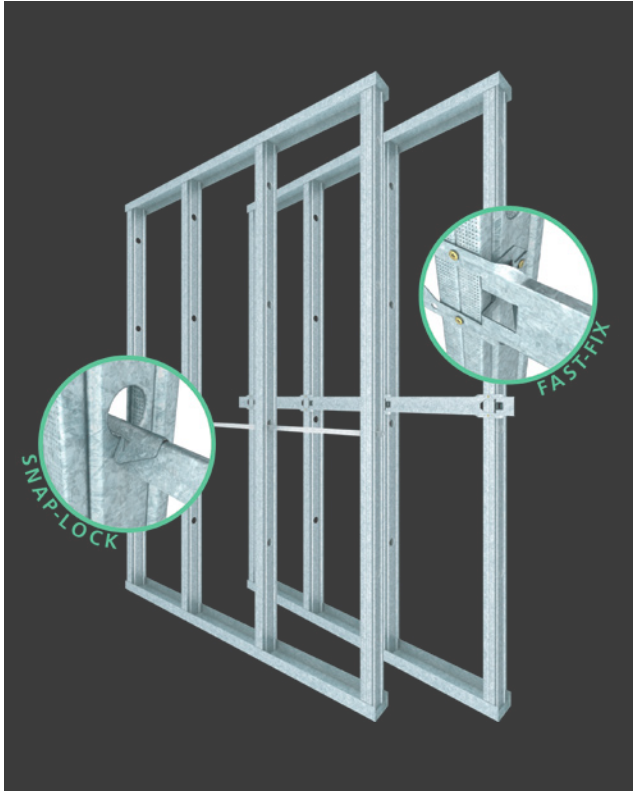
### Sector Compatibility

Looking holistically at the construction sector can help you understand how your building fits in. Knowing its position relative to the range of other projects informs which part of the market it could and should be compatible with. In the case of refurbishment or additions, consider how well the product or system works with the existing building. Understanding the different construction and material systems within the building helps to make an efficient decision as it means that the new addition can integrate efficiently with the old. One example of this is considering whether the existing structure adheres to conventional industry dimensions - if so, it permits the use of existing tools and skillsets, which in turn can speed up the construction process.

Scalability, or the adaptability of one system to a range of scales, is an essential characteristic within today's diverse and dynamic construction industry. The primary appeal of scalable products is the fact that they allow designers and construction professionals to work at large and small scales – and across different project types – without significantly altering their labour practices and methods. Scalability is particularly critical within Australia's rapidly densifying cities, where low-rise and multi-storey projects are on the rise.



ABOVE: Rondo FAST-FIX® Nogging



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## PERFORMANCE

In addition to durability and longevity, the performance of a building is measured in two regards. Firstly, fitness for purpose, which demands that a product or system must actually serve the purpose it purports to serve. The building must also meet the needs and expectations of the client, builder and developer in order to satisfy contractual agreements. Secondly, the building must adhere to the relevant requirements of the National Construction Code (NCC), Australian Standards and any other applicable guidelines or regulations.

## RONDO

Rondo is pleased to present the SNAP-LOCK and FAST-FIX systems, two innovative new types of noggings. SNAP-LOCK and FAST-FIX join the existing Rondo selection – which includes the Continuous Nogging Track, Double Punch Nogging Track, and Continuous Nogging bracket – to form a range of noggings that is easy to install, widely compatible with other industry products, and tailored to suit a range of specific applications. Of this range, SNAP-LOCK and FAST-FIX are unique in their ability to be installed after the completion of stud framing.

Designed to deliver optimum performance and efficiency, Rondo's new smart noggings are transforming framed construction. Both SNAP-LOCK and FAST-FIX are compatible with the Rondo Stud and Track System and are highly scalable, making them suitable for a breadth of projects. SNAP-LOCK simply clicks into the service holes on lightweight wall framing and is also suitable for use with bell-mouthed service holes in Rondo Light Gauge Studs. A spacer bar that slips easily into installed framework, SNAP-LOCK significantly reduces labour and costs by speeding up installation, and can be used with 300, 400, 450, and 600mm stud centres.

FAST-FIX noggings can be face-fixed or installed using braced bend-out tabs, meaning that they are suitable for all typical stud wall types including boxed, back-to-back, and staggered. The highly adaptable system can be used with the Rondo DUPLEX, QUIET STUD, or Stud and Track Drywall System and is available at sizes to suit 300, 400, 450, and 600mm stud centres.

Offering fast, efficient installation, the versatile SNAP-LOCK and FAST-FIX systems are the ideal specification choice for designers and specifiers seeking to save both time and money. In addition to a broad catalogue of high performance noggings, Rondo also provides design support in the form of their Rondo Noggings Systems Design Manual and installation guides for all their products.

Since 1964, Rondo has led the global market in high quality, innovative steel products and systems. The proudly Australian owned company is a leading manufacturer and supplier of a diverse catalogue of lighter gauge rolled formed steel products and systems that meet the demands of contemporary construction. Rondo has supplied its Stud and Track System to numerous high profile large-scale developments around the world, including the Mumbai International Airport and Melbourne's RMIT University.

## REFERENCES

- <sup>1</sup> <https://www.businessinsider.com.au/australia-construction-boom-2018-2018-3>
- <sup>2</sup> <https://theurbandevolver.com/articles/australias-construction-sector-continues-to-expand-into-2018>
- <sup>3</sup> <https://www.businessinsider.com.au/australian-building-approvals-rebound-led-by-apartments-2018-3>
- <sup>4</sup> <https://www.news.com.au/finance/economy/australian-economy/australias-construction-market-is-overheating-which-could-lead-to-a-building-bust/news-story/b78e143010af8379ac0a44c9269f499a>