

GYPROCK[®]

Everything else is just plasterboard

Boundary Wall System

For zero-lot-line construction



CSR

Demand for space is redefining construction solutions

Maximising liveable space is a common objective of designers and developers, leading to increasing volumes of higher density living. It reflects Australia's evolving lifestyle needs, as well as housing trends, population growth, land availability and building affordability.

The resulting developments are characterised by buildings as close as possible to property boundaries and with minimal wall footprints.

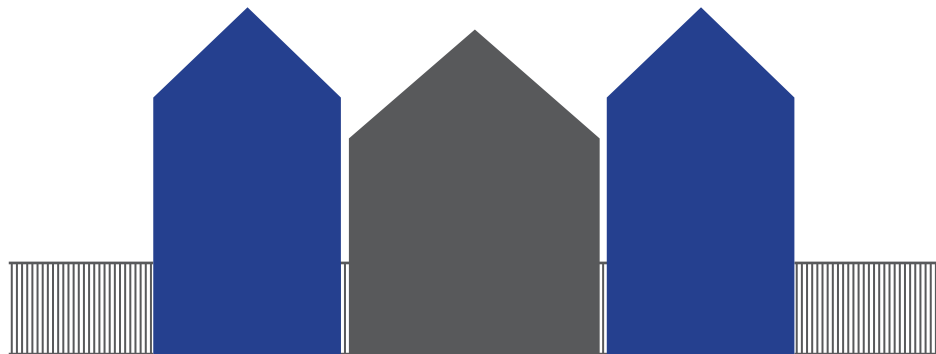
The appeal of higher density living

- Proximity to epicentres and services
- Ease of living made possible because of shared space and services
- Land availability – often tighter lots in established streetscapes or further from city centres
- Land affordability – the financial reality of high density options vs detached homes

In considering a range of project types, including redevelopment between existing dwellings, or sequential build scenarios like terrace or town houses, designers and builders may seek building solutions that maximise popular single-lots, and development in a sequence that matches sales with financing.

Building to the boundary between existing properties

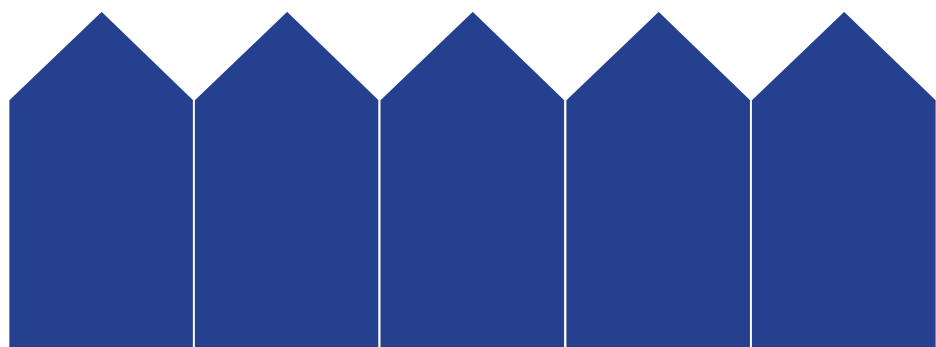
This method maximises the use of the site by building as close to the property boundary as possible, delivering a larger liveable space within an existing footprint.



Build as you sell: sequential vs non sequential building

An opportunity to move away from the limits of sequential building processes, where multiple occupancies are completed as one building on a common title, to a method that delivers homes with individual title, in non-sequential order.

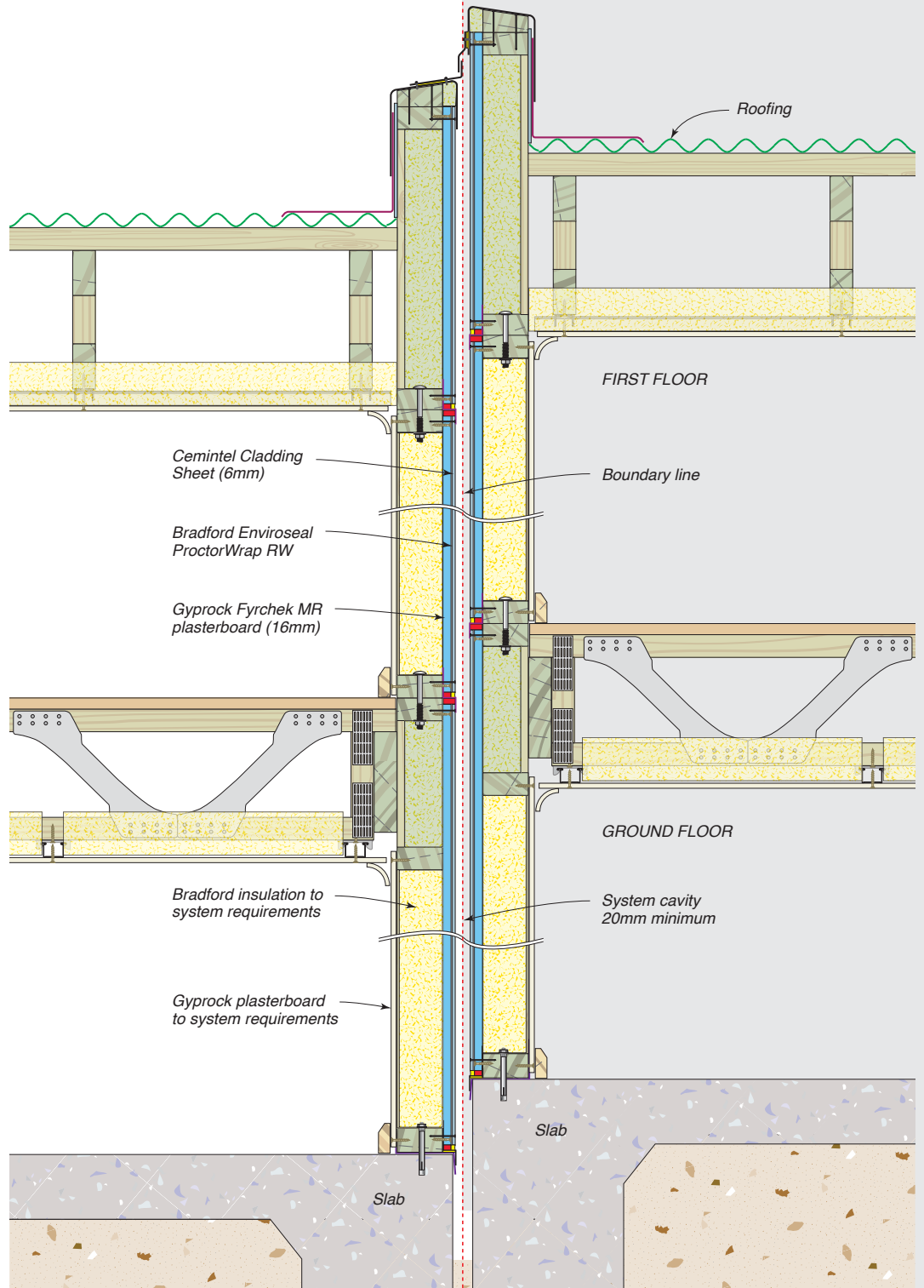
These factors have created market demand for a simple but effective wall system that would maximise liveable space while enabling zero-lot-line style construction and, if and when required, the construction of subsequent adjacent dwellings. An ideal system would be a narrow-footprint external wall meeting the fire and thermal requirements of the building code, then when there is an adjacent tenancy, a combined wall system that satisfies acoustic and fire requirements like a traditional intertenancy wall.



Introducing the Gyprock Boundary Wall System

Singularly a boundary wall, together, acts as an intertenancy wall

The Gyprock Boundary Wall System is a responsive solution that evolves, if and when required, from a single boundary wall into a double boundary wall system that performs like an intertenancy wall, allowing non-sequential development of adjacent dwellings in zero-lot-line developments, maximising liveable space and meeting BCA requirements for Class 1a buildings.



Boundary Wall Single System:
Specify a single wall system for a fire and thermal compliant, external boundary wall

Boundary Wall Double System:
Add a second wall system for a fire and thermal compliant, acoustically superior wall system that performs like an intertenancy wall, constructed in stages for responsiveness to build requirements.

System Performance

Gyprock Boundary Wall Systems provide the fire rating and weather resistance properties required of external walls, with a construction method that makes them ideal for close proximity to boundaries, and to the subsequent addition of a second wall system, if and when required, to perform like an intertenancy wall.

Criteria	Performance	Reference
Fire	FRL 60/60/60	FAR 4840
Acoustic	Rw + Ctr 50	PKA 100 CSR
Thermal	$R_{t(\text{Sum.})}$ R2.7, $R_{t(\text{Win.})}$ R2.9	CSR Thermal Calculator V1.6
Weather	Wind class up to N4/C2 to AS4055	AECOM

Fire protection

The system's fire performance relies on its plasterboard linings, with Gyprock Fyrchek MR applied to the outside of the timber studs, and a range of Gyprock plasterboard product options to line the interior. In areas where internal linings are interrupted or not present (for example, in the roof space or floor framing connection areas), additional fire protection is used in the wall cavity.

The importance of acoustics

While the BCA does not mandate acoustic performance requirements for external walls built on separate lots or titles, neighbouring inhabited dwellings often experience loss of occupant amenity due to the transmission of nuisance sounds across reduced boundary setbacks. Some building authorities now recognise the inherent risk of amenity loss in zero-lot-line development styles, and mandate minimum external wall acoustic performance above BCA requirements.

Gyprock Boundary Wall Systems, in adjacent buildings, together achieve or exceed separating wall acoustic performance set out by the BCA. Extensive acoustic testing ensures that a suite of options are available.

As Gyprock Boundary Wall Systems are designed as exterior walls, they do not rely on the presence of an adjacent wall for protection from wind loads or for fire, and can be demolished independently of one another.



Applications

Gyprock Boundary Wall Systems are primarily intended for use in the non-sequential construction of adjacent buildings in zero-lot-line construction. Traditional methods required an entire 'block' of attached dwellings to be built as one, with the intertenancy walls lined as interior walls, after the roof and exterior walls are completed. Gyprock Boundary Wall Systems allow individual units to be completed before the construction of adjoining units.

In order to facilitate the completion of an individual unit, the boundary wall must first perform as an external wall to meet fire, thermal and weatherproofing requirements. When building with Gyprock Boundary Wall Systems, once the adjacent tenancy is added, the combined system performs like an intertenancy wall that maintains its fire and thermal performance, with the added benefit of a high level of acoustic separation.



Specify as a boundary wall for detached dwellings

Gyprock Boundary Wall Systems can be selected for buildings to be positioned between existing dwellings.

A Boundary Wall Single System delivers:

- A BCA compliant external wall
- A slim wall footprint
- The ability to build in close proximity to the property boundary
- Ease of construction, with the second wall system built from one side only

Specify as a future wall system for zero-lot-line development projects

A Boundary Wall Double System provides:

- Non-sequential build freedom, delivering a BCA compliant external wall now while allowing an adjacent wall to be built later, achieving a high level of acoustic separation like an intertenancy wall
- Ease of construction, with second wall system built from one side only
- A slim wall footprint
- The flexibility of individual financing and titles

Construction

Gyprock Boundary Wall Systems can be assembled laying horizontally, then tilted into position. Assembly is flexible, and can be completed on-site using traditional timber framing construction methods, or completely off-site in a controlled and highly accurate manufacturing environment. As well, framing module units can also be pre-fabricated by truss/framing manufacturers, transported and then lined with cladding on site prior to system erection. In this scenario, internal plasterboard wall linings are installed in the traditional manner once building weather tightness has been achieved.

Conveniently, assembly on-site can be achieved from one side only, meaning proximity to the boundary can be maximised even when a neighbouring wall exists. Simplified junctions ensure the system is relatively easy to assemble, with the ability to accommodate minor framing deviations and builders' tolerances.

All Gyprock Boundary Wall Systems are finished with Gyprock plasterboard, delivering a high quality internal lining finish.

Full installation details are available in the Boundary Wall System Design and Installation Guide available from gyprock.com.au

DesignLINK™ Service

For more technical assistance, CSR DesignLINK has been established to help architects, engineers and other design professionals select the right products and systems for their projects. Estimating and design tools such as an acoustic predictor for wall systems can be provided and customised design solutions are available on request.

The dedicated phone number for DesignLINK Technical Support is 1800 621 117.

Warranty

Gyprock products are designed to achieve optimal performance when part of a CSR integrated system.

CSR Building Products Limited warrants its Australian made Gyprock products to remain free of defects in material and manufacture for the usual lifetime of the product (25 years). CSR warrants its International Alliance Gyprock products to remain free of defects in material and manufacture for 7 years.

For details on our product warranty, please visit gyprock.com.au, or contact us on 1300 306 556.



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For more information about Gyprock® Boundary Wall System, call 1300 306 556 or visit gyprock.com.au

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