



▶ **DESIGNING  
FOR PODS**  
MANUAL

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## Scope of This Manual

The Interpod Designing for Pods Manual has been prepared as a preliminary guide for architects, designers, developers and builders to assist in designing to achieve the maximum benefit from Interpod bathroom pods. It does not attempt to cover all the requirements of the codes and standards which may apply to bathroom construction. All designs should be reviewed by the relevant consultants prior to construction. Interpod reserves the right to change the contents of this manual without notice.

## ► THE FOREFRONT OF BATHROOM CONSTRUCTION

**Interpod Offsite are the pioneering and industry leading manufacturer of modular bathroom pods. Providing a revolution in construction methods, Interpod bathrooms are the superior alternative to often problematic traditional bathroom building methods.**

Interpod bathrooms are complete, prefabricated bathroom pods manufactured offsite in parallel to, or ahead of the onsite construction schedule. Upon completion, an Interpod bathroom is simply wheeled or craned into place for a quick, onsite installation process.

The production line environment of the Interpod modular bathroom manufacturing process provides a cost effective, time efficient and defect free end-to-end bathroom solution for large scale developments. The project certainty that can be achieved through the best practices of the Interpod process is an innovation in the construction industry.

Offering all of the highest standard finishes and virtually no design constraints, Interpod bathrooms are the simplest way to enhance the efficiency of a project without compromising the style, quality or capabilities of the finished product.

**For optimum results, Interpod bathrooms should be 'designed in' during the early stages of a construction project. This will ensure that all requirements remain unhindered by onsite issues as well as retain the complete benefits of modern modular building techniques.**

The inclusion of Interpod bathrooms later in a project can still foster the same efficiencies and project benefits. The flexibility Interpod can offer can overcome a multitude of pre-existing issues that may be hindering the progress of a project's construction process.

Our team of project managers, designers and engineers collaborate with global affiliates to bring the world's best practices, methods, ideas and technologies to the local arena. Our craftsmanship has evolved over our decades of experience and enables us to meet diverse client demands to consistently surpass all expectations.





## ▶ THE INTERPOD DIFFERENCE

**Interpod bathrooms are an end-to-end bathroom solution designed to streamline the construction process and bring projects to market faster.**

One of the essential benefits of Interpod bathrooms is the project certainty they can provide. The Interpod design and manufacturing process allows for the utmost levels of control, predictability and efficiency.

Interpod will 3D model all bathroom pods to develop and validate the design. With models able to be imported into most common construction drafting packages, Interpod can provide their clients with a comprehensive digital description of every aspect of the finished product. When combined with the fully-functioning prototype, Interpod clients can fully experience, understand and manipulate the bathrooms they have chosen.

The offsite production process employed by Interpod, combined with our extensively stringent quality assurance procedures, enables us to produce defect-free bathrooms ready for easy installation. By utilising a controlled production line and offsite manufacturing process, Interpod effectively eliminates the delay-causing issues such as defect corrections, trade coordination, weather delays and other site dependent difficulties.

## ▶ STANDARD PODS OR CUSTOM DESIGN?

**Every construction project will bring with it a set of particular requirements, issues and constraints.**

Considering the individual characteristics of each project will ultimately require consideration of whether a standard Interpod bathroom design is the best alternative, or whether the project could be better benefited by the ability to customise the design of its bathrooms.

Interpod standardised bathroom designs fulfil an extensive range of needs for nearly every sector including hotels, student accommodation, multi-dwelling housing and aged care facilities. By utilising the well proven designs of the Interpod standard range, a project can also capitalise on the significant cost savings and time efficiencies that repetition in the modular production process can offer.

At times, the ability to customise a design to suit the particulars of the project can be the more valuable benefit. Interpod bathroom designs can be completely customised to suit our client's specifications and requirements.

**We work closely with all of our clients to ensure that they are always making the most efficient, productive and quality design choices to offer the greatest benefit to their programs and budgets.**



# CUSTOM BATHROOM DESIGN

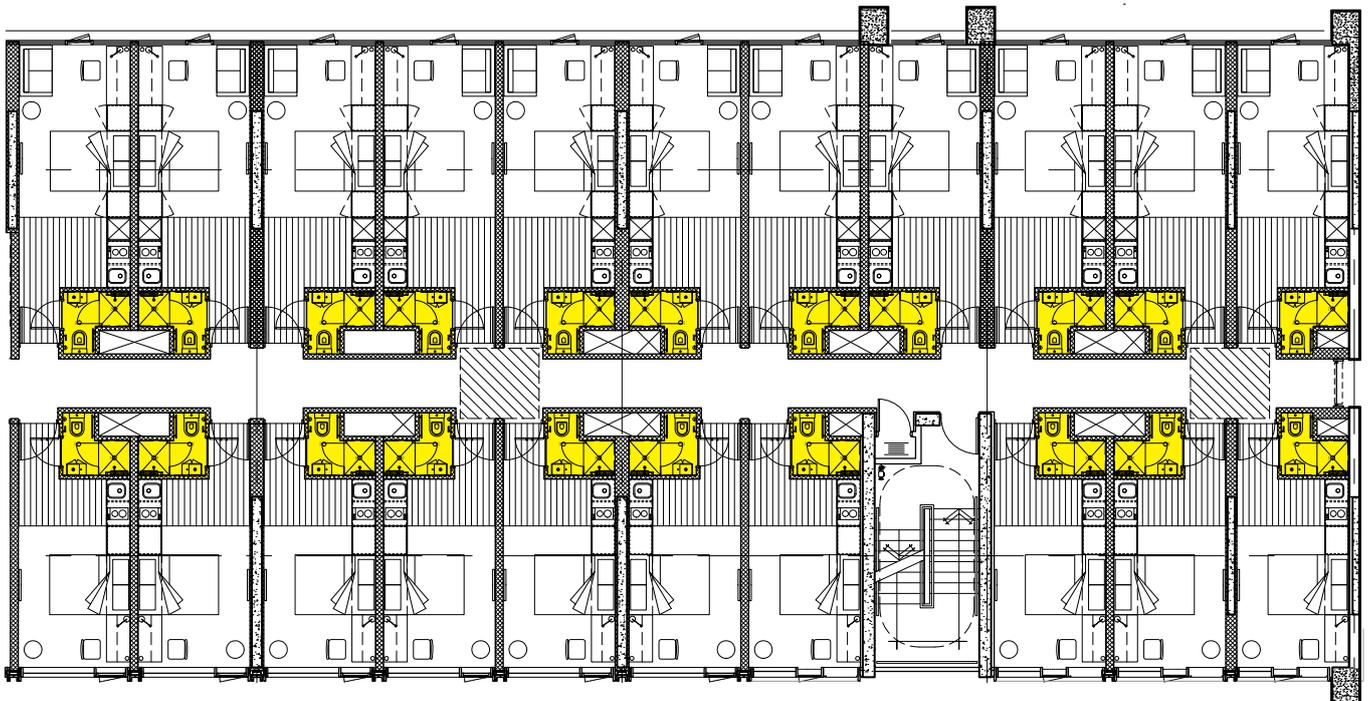
## Design Types & Pod Quantities

**The number of pods and number of design types is the biggest factor to impact efficiency and cost-effectiveness for a bathroom pod project.**

Each new bathroom design is essentially a new product, requiring 3D modelling, certification, prototyping, production engineering, machine programming, and production line setup. This adds a significant level of cost that could otherwise be eliminated by rationalising the number of design types in the project.

To make a project viable for pods, it is important to ensure the ratio of number of pods to number of pod designs is not less than 50:1. For maximum efficiency, we recommend a ratio of greater than 100:1. Please note that LH/RH versions are not counted as an additional 'type', however any differences in shape or size of the pod are considered a new type.

For projects that already have their bathrooms designed for a traditional build, it is possible to bring these 'types' down and into line with a productive ratio through collaboration with Interpod. Contact us to arrange an obligation free project assessment for a full take-off and recommendations.



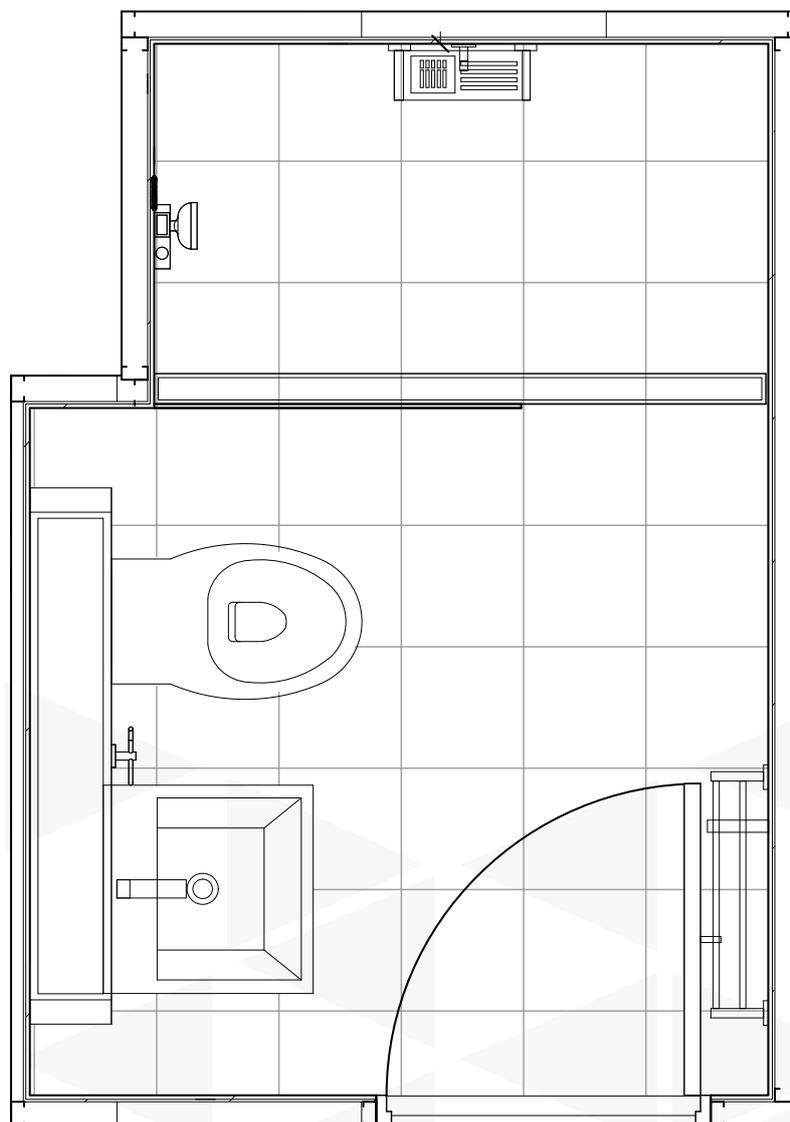
**By offering a fully customised design process, Interpod can facilitate large scale, modular bathroom adoptions across an extensive range of construction programs.**

Offering a superior alternative to your project specific needs, Interpod bathrooms can be fully customised with no design limitations. In order to maximise the efficiencies of your customised design, the following design qualities should be considered.

## Size & Shape

To enable easy manufacturing, delivery and installation, Interpod recommends that the internal bathroom dimensions are no greater than 2.3m wide by 3.0m long internally. Larger sizes can be accommodated if required, for example PWD pods. For further information please contact Interpod.

Minimising complexity is also key. Ideally the bathroom layout would be kept to 4 walls, however up to 6 walls or more is not uncommon.



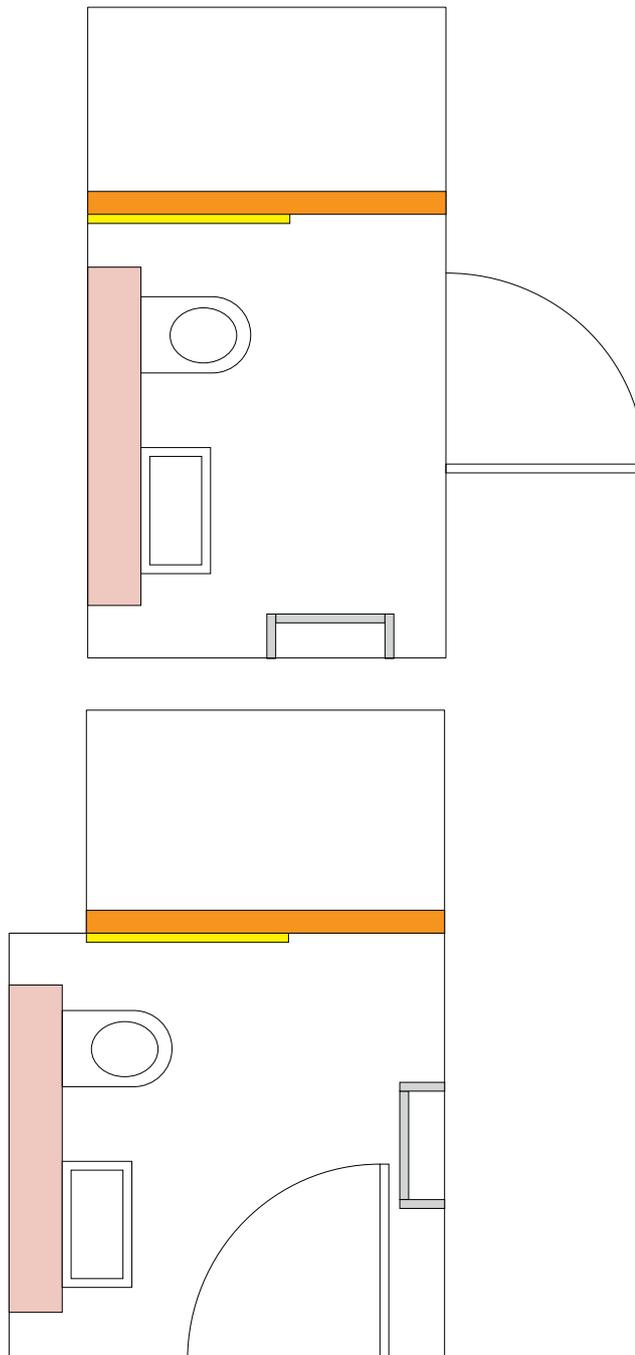
**Recommended maximum dimensions: 2.3m x 3.0m**

# CUSTOM BATHROOM DESIGN

## Standardisation of Components

**In addition to rationalising the bathroom types in a project, it is also possible to share standardised components across multiple types.**

Common examples include shower screens, strip drains, walls, and joinery. This is not a necessary step however it can help increase the cost efficiency of the manufacturing process.



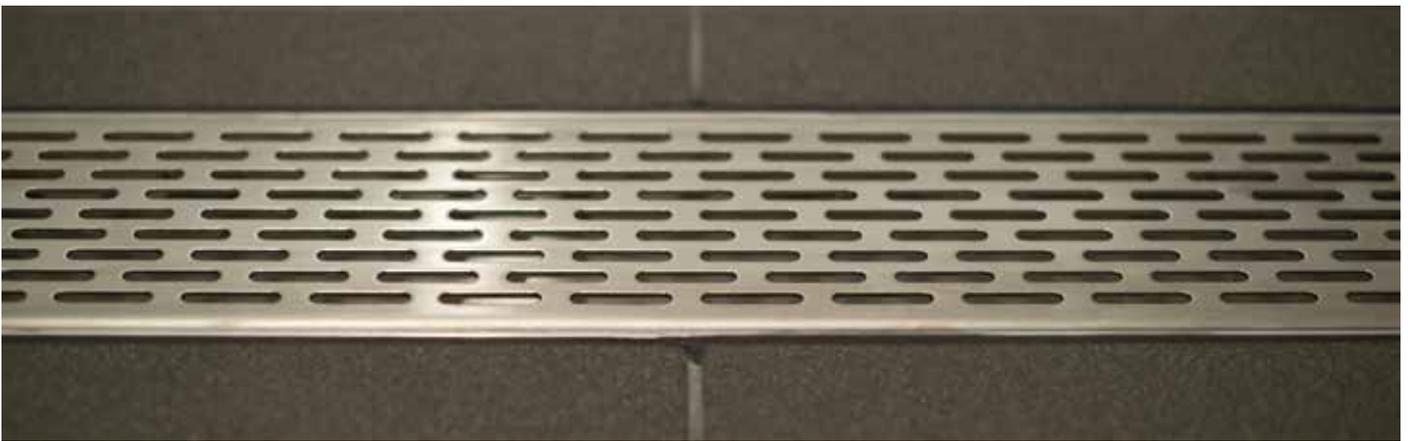
Diagrams represent shared components between different bathroom types

## Drainage Design

It is important to reduce the number of drainage points in the bathroom design, as a greater number of penetrations in the slab increases the risk of concreting inaccuracies and installation errors onsite.

To ensure the number of penetrations are minimised efficiently, Interpod recommends:

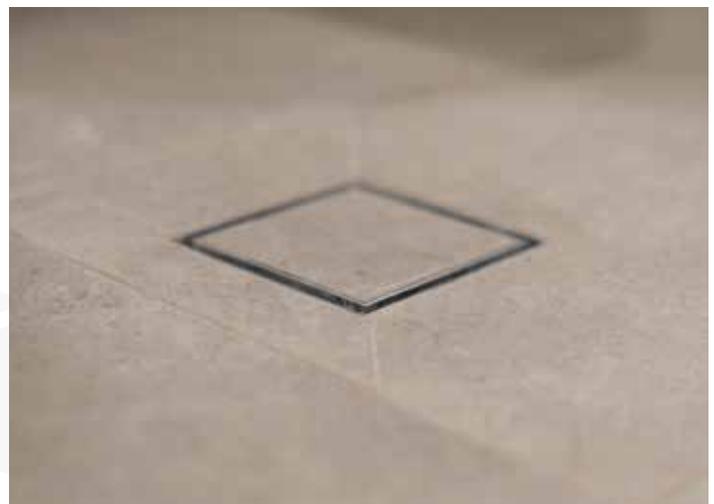
- Using P trap toilets and connecting them to the stack above the slab. Exposed pipework can be avoided by concealing it in joinery or backing the toilet onto the riser.
- Connecting basin wastes to the stack above ground. 40mm PVC can generally run a reasonable distance in the wall cavity.
- Using a single strip drain servicing both the shower and main bathroom area.



Strip Drain



Tile-over Strip Drain



Tile-over Floor Waste

# CUSTOM BATHROOM DESIGN

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## Fixtures & Finishes

Generally, any fixtures and finishes specified in a traditional bathroom can be applied to Interpod bathrooms. The level of quality for fixtures and finishes is in no way compromised by the modular system.

### Floor & Wall Finishes

The most economical linings include pre-finished wall panels such as Compact Laminate. All of the Interpod standard finishes such as tiles, natural stone, vinyl, Laminam, and Kerlite offer the highest standard of quality to the bathroom pod's finish.

Painted plasterboard is an option, however full height tile or vinyl combined with a pre-finished ceiling increases the level of quality and performance.



### Electrical Fixtures

Any standard electrical fixtures can be specified.



### Tapware and Sanitaryware

Interpod can source any specified items through a strong, national network of suppliers.



### Value Management

Interpod has an extensive global supply chain and can assist with sourcing cost-effective fixtures and finishes, while maintaining the design intent of the project. Contact us to learn more about our value management resources.



# STANDARD RANGE

**In addition to custom designed pods, a number of standard Bathroom designs are available. The Interpod standard bathroom range has been carefully designed for manufacture and represents the ultimate value for money in bathroom pods.**

By utilising a standardised design, construction projects can fully maximise the cost effectiveness and time saving benefits of manufacturing prefabricated, quality bathrooms.

The standard pod range includes over 20 models designed specifically for use in student accommodation, hotel, residential, and aged care construction projects.

The modular process is better enhanced by the repetitious production schedule of the standardised range of Interpod bathrooms. The production line efficiency and stringent quality assurance of the Interpod process ensures that every one of our standard bathrooms is of the highest calibre.

For full details of the standard range including plans, specifications, and DWG files please contact Interpod on [info@interpod.com](mailto:info@interpod.com)

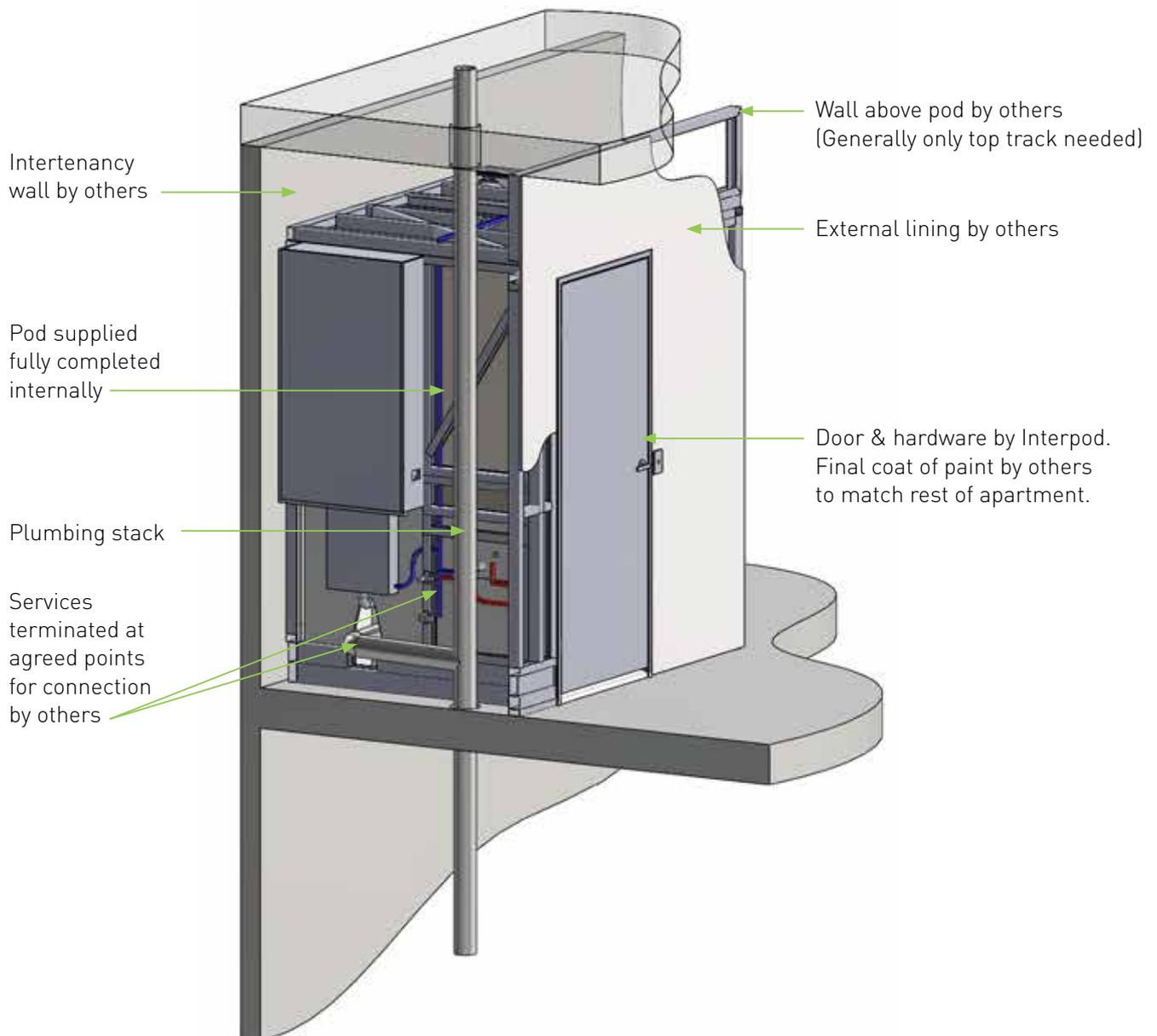


3D Illustration



# STRUCTURAL INTERFACE

**Interpod bathrooms interface easily with the host building with no specialist trades needed and very little site work for successful installation.**



## Door & Door Jambs

Interpod bathrooms can be fitted with most types of steel, aluminium and timber door jambs. Generally, steel is recommended for its superior strength. The jamb profile and header height are matched to other jambs that have been used in the project.

The external faces of the jamb and door have the first and second coat of paint applied, with the final coat by site painter in order to ensure a perfect colour match, in comparison to nearby doors.

## Concrete Finish

It is very important to achieve a high quality concrete finish in areas where the bathroom pods will be installed. Interpod bathrooms rely on a flat and level finish for efficient installation.

**For best results, the following tolerances should be specified:**

- For pod installation without additional packers or levelling, slab variation must be no greater than 3mm over the entire bathroom area with no localised high spots.
- For pod installation with packers, variations of up to 15mm can be accommodated.

Variation of greater than 15mm will require additional slab treatment such as topping or grinding. Note that the finished threshold height will increase if excessive packing is required at the door area.

Communication with all subcontractors across the project is critical, as the concrete finish was not as important in the wet areas of a traditionally built bathroom because the tile bed covered imperfections.

## Slab Penetrations

Slab penetrations must be cast with a high level of accuracy to ensure the waste connection spigots are not damaged during installation.

Interpod provides a template for each bathroom type to assist with layout and verification of penetration and setdown positions.

## External Lining

Interpod uses a 64mm stud to minimise any lost space in the pod walls.

The external wall studs are left exposed and are lined onsite to ensure a seamless finish with the adjoining walls.

See wall details on page 12 for more information.

## Weight Loadings

The weight of an Interpod bathroom pod is generally the same as the weight of a traditional, site-built bathroom. For a more accurate estimate please contact Interpod.

## Ceiling Heights

Ceiling heights should be considered to ensure the pod can be manoeuvred into position. Allow for the internal bathroom height to be a minimum of 300mm less than slab to structural ceiling.

# STRUCTURAL INTERFACE

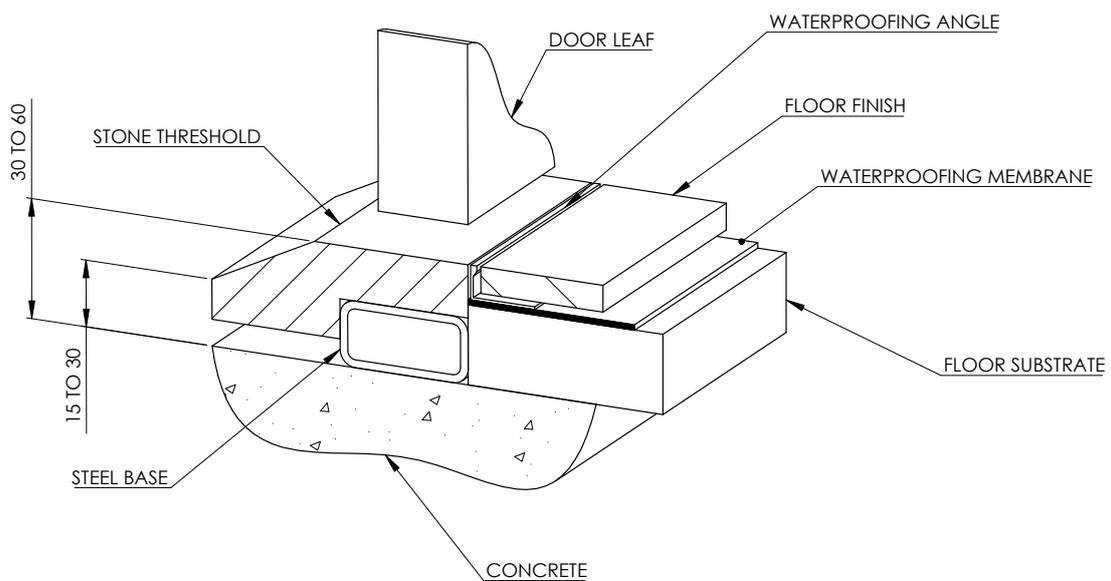
## Threshold

Threshold thickness is dependent on a number of factors, including the size of the bathroom, the distance and grade to the floorwaste, and the thickness of finishes. Generally, a threshold thickness of 20 – 30mm is achievable when using a ramped threshold. This thickness can usually be taken up with floor finishes outside the bathrooms.

A number of materials such as reconstituted stone, stainless steel, or tile can be used for the threshold.

A thinner base can be achieved by eliminating the fall and specifying a flat floor outside the shower area, however this may not be compliant in a number of situations.

Where an entry that is flush with the floor is required, a slab setdown and/or localised levelling can be employed. Contact Interpod to discuss the best options for your project.



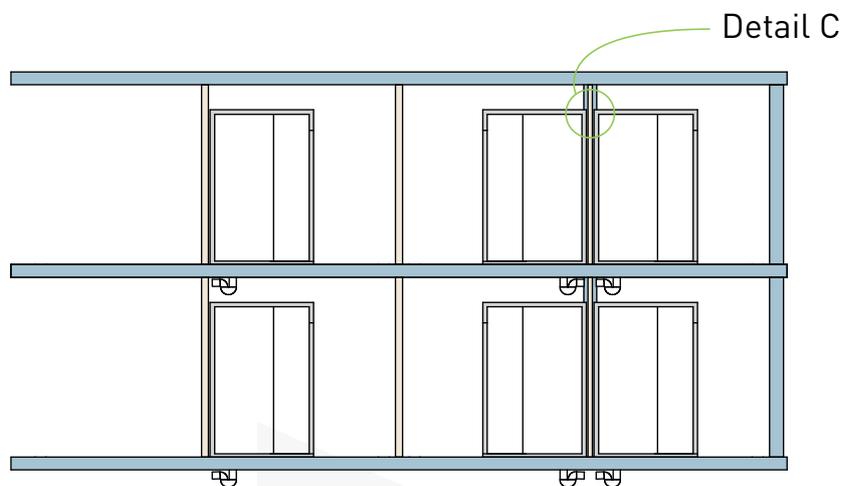
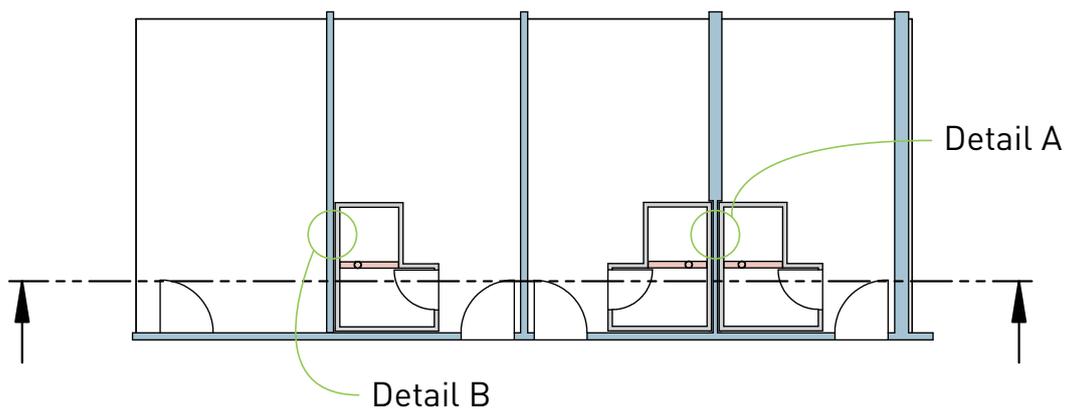


# ACOUSTIC AND FIRE RATINGS

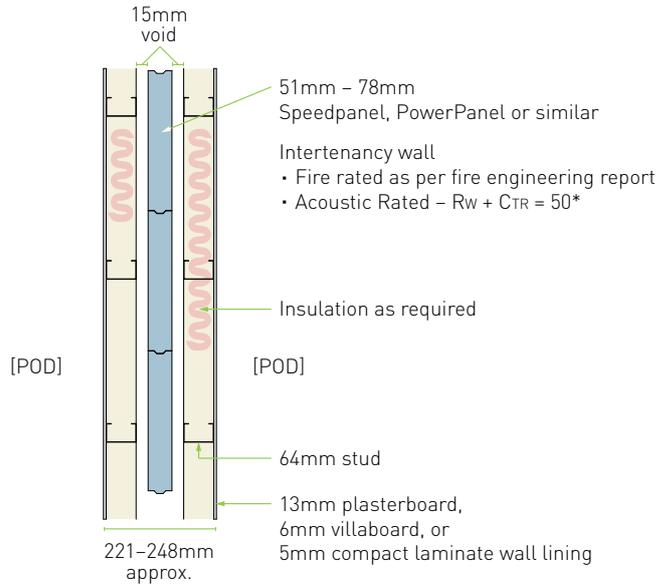
Interpod bathroom walls are generally not fire rated and rely on separately constructed walls to achieve the required ratings. Acoustic ratings may be fully or partially achieved within the pod walls, and must be evaluated on a case by case basis.

To minimise lost wall thickness, it is recommended that a fire and acoustic wall panel, such as Speedpanel or Hebel Power Panel, is used.

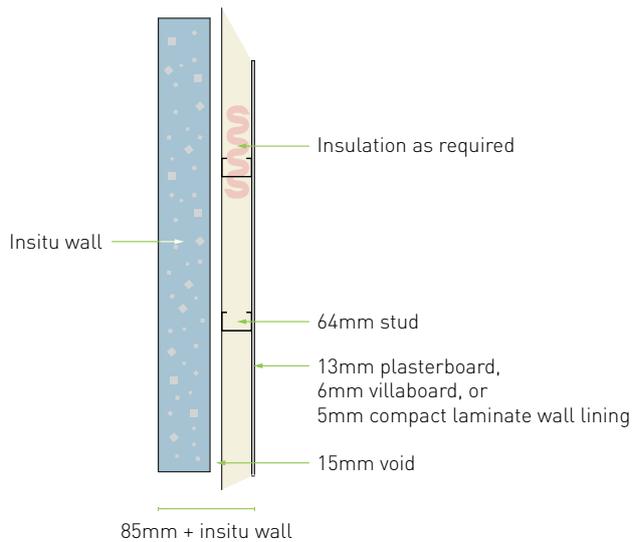
The following wall details show the suggested wall construction for a variety of common scenarios. These should be used as a guide for dimensional purposes only. Final design to be in accordance with all of the manufacturer's recommendations.



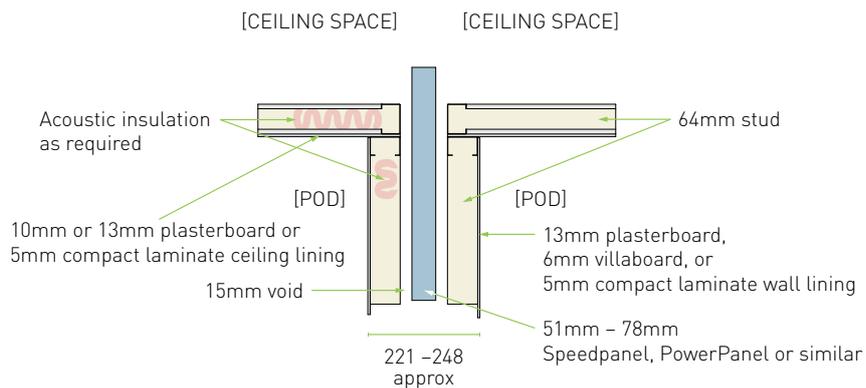
### Detail A



### Detail B



### Detail C



# SERVICES CONNECTIONS

## Plumbing

Plumbing connections are provided with standard DN15 or DN20 threaded connections, or plain pipe ends. Connections include hot and cold water, along with optional grey water. Connection point locations are specified by the builder, generally during the design and development phase.

Where the bathroom adjoins a kitchen or laundry area, additional plumbing points can be roughed-in to minimise additional plumbing on site.



## Electrical

All electrical points are wired back to a single connection point. These can be terminated at a junction box for connection by the site electrician, or supplied with a tail long enough to reach the closest power source.

Additional points can be roughed-in if there are other electrical fixtures to be attached to the external pod walls. Electrical fixtures within the pod can also be integrated with external switches as required.



## Waste Connections

Most Interpod bathrooms are supplied with a DN100 DWV pipe waste connection spigot protruding through the base of the pod. Connection is made by the site plumber.

For low profile bathroom floors, the floor waste is connected by way of a glue joint through an oversized fire collar or a Smartseal connection cast into the slab.

Where the bathroom floor depth is not an issue, the floor waste can exit from the side of the pod to facilitate connection above the slab.



## Fire Sprinklers

Fire sprinklers are generally fitted by other trades to avoid compliance issues. Interpod provides a penetration and the required blocking in the ceiling to facilitate easy installation of fire sprinklers onsite.

Optionally, fire sprinklers can be supplied by the fire services contractor for fitment in an Interpod bathroom for inspection and certification by site fire services contractor.



## Ventilation

Interpod generally supplies the register in the ceiling and enough flexible duct to connect to the fan or ventilation duct. Fan units and connections are performed by the site's mechanical contractor.

Other ventilation systems, such as hard ducts, can be accommodated where required.



# NEXT STEPS

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Every project is different. To streamline the process of specifying pods for your project, we recommend the following steps in order to progress efficiently.

## 1. CONSULTATION

Communication is key. We recommend an initial consultation and evaluation process to determine whether bathroom pods are suitable for your project.

## 2. FEASIBILITY

Our experienced and highly knowledgeable contact team can work with you to assess the feasibility of your project in terms of program, size, compliance, budget and timeframe requirements.

## 3. DESIGN ADVICE

A supported and collaborative design process with Interpod can achieve a fully compliant, cost effective and high quality outcome for your project.

## 4. VALUE ENGINEERING, STANDARDISATION OF COMPONENTS AND FF&E RECOMMENDATIONS

By utilising the design and consultation processes, Interpod can work with your project team to enhance efficiencies through value engineering, standardisation of components and FF&E recommendations.

## 5. SUBCONTRACT TENDERS

Interpod provide accurate, industry-based and project specific advice on the processes required for subcontractor's tenders when working with our modular bathroom pods.

## 6. PROTOTYPING

Every project receives a full working prototype bathroom pod to ensure that the design requirements and specifications have been met. This allows our clients to physically inspect the bathroom before full scale production begins.



Visit [www.interpod.com](http://www.interpod.com)  
or contact us on  
1300 00 PODS  
to see how we can help.