



KITCHEN AND BATHROOM PODS





INNOVATIVE
OFF-SITE
MANUFACTURING

# AN INTRODUCTION

## TO PADDINGTON PODS

PADDINGTON MANUFACTURES PODS IN A CONTROLLED FACTORY ENVIRONMENT, DELIVERING HIGH QUALITY, FULLY FUNCTIONAL AND PRACTICAL KITCHEN AND BATHROOM SOLUTIONS COST EFFECTIVELY, QUICKLY - AND WE NEVER COMPROMISE OUR CLIENTS' EXPECTATIONS.

Paddington have 15 years' experience of designing, building and supplying quality lightweight steel pre-galvanised framed bathroom and kitchen pods to the construction industry, for both commercial and private developments.

Our location is a significant benefit to our clients, making visits to review the progress of their projects easy and convenient. We have two modern factories providing space of 120,000 sq ft and the capacity to build over 10,000 bathroom and kitchen pods a year.

Two of the most important requirements for any construction project are programme and cost certainty. Construction site environments, where there may be difficult site access, limited supervision, health and safety concerns and changeable weather conditions, can make the control of labour costs, build time and quality particularly difficult.

By having the bathrooms and kitchens prefabricated off site, to a fixed cost and under strict quality control procedures, and then delivered to site at a pre-specified time, build schedules can be easily maintained and on-site problems significantly reduced.

We happily welcome visitors and often run workshops with interested parties to demonstrate the potential benefits of off-site manufacture.



#### THE BENEFITS OF PODS

COST SAVINGS OVER TRADITIONAL ON-SITE INSTALLATION

HIGHEST STANDARDS OF QUALITY CONTROL

SUPERIOR FINISH AND BUILD QUALITY

COST CERTAINTY

FASTER CONSTRUCTION
PROGRAMMES FOR ACCELERATED
OCCUPATION

REDUCTION OF MANY ON-SITE HEALTH, SAFETY AND ENVIRONMENTAL ISSUES

PROGRAMME CERTAINTY

REDUCED REQUIREMENT FOR SKILLED LABOUR AND SUPERVISION ON-SITE

REDUCED ON-SITE MATERIAL REQUIREMENT

REDUCED WASTE



## THE DESIGN PROCESS

AT PADDINGTON WE HAVE WORKED CLOSELY WITH AN EXPERT TEAM OF DESIGNERS, ENGINEERS AND SUPPLIERS TO PRODUCE PODS THAT, WHEN INSTALLED, ARE INDISTINGUISHABLE FROM THE HIGHEST FINISH LEVELS AND PERFORMANCE OF ANY TRADITIONALLY BUILT KITCHEN OR BATHROOM.

Our engineers and designers work closely with the client's architects and design team to ensure that the client's requirements are accurately represented in detailed manufacturing drawings, as well as taking account of practicalities to produce a pod that is functional and easy to maintain.

We also work closely with the construction and mechanical and electrical teams to facilitate installation and interfacing with the rest of the construction project.

As part of the design process, we recommend that a prototype is produced prior to full production sign-off. Normally, this can be ready for viewing within eight weeks of placing the order.

Paddington use Virtual Worlds, a fully interactive, virtual reality software programme for creating room interiors. The software allows us to design a 3D interior, with the ability to view it from any angle in amazing photo-realistic colour. The 'real-time fly through' mode gives clients the freedom to 'walk' around their design room and get a real feel for the space.

The package has access to over 60 manufacturers' product catalogues, with many more planning to become available in the future. Visual Worlds' latest generic kitchens catalogue provides a huge resource of models for any kitchen design, with easy-to-use facilities including: auto range changing; live 'actions' to open and close doors and drawers or to illustrate the operation of particular units such as corner carousels and bi-fold cupboard doors; pricing schedules; order schedules; 2D installation plans and much more.

Utilising this state-of-the-art computer technology enables us to visualise our clients' requirements instantly and has become an integral part of the design and planning phase.

In summary, we use our experience and expertise to fully realise each client's original design concept in a pod that is practical and serviceable and aesthetically pleasing.









#### MANUFACTURING

# AS IN MOST MODERN MANUFACTURING FACILITIES, WE UTILISE A PRODUCTION LINE METHODOLOGY.

Paddington produces lightweight steel pods using pre-galvanised cold rolled sections thus reducing weight, waste and maximizing flexibility. Pre-cut galvanised steel sections are connected using self-piercing rivets to produce flat panels, and each panel has its own jig to ensure accurate positioning and repeatability.

When required, the panels are bolted together to form the basic steel frame of the pod. This built-in flexibility allows for the possibility of designing pods that, should the need arise, can be re-configured at a later date. This is particularly useful when the room is required to comply with 'Lifetime Homes' standards.

Each pod is uniquely identified throughout the production process using RFID technology. This allows for close controls to be applied and facilitates full traceability. It also means that clients can access our web-based database to track the progress of their pods and view a comprehensive O&M manual for each pod.

Utilising our 'just in time' philosophy, pods are manufactured in sequence with the delivery schedule and pass through a number of stages in which operations and quality are strictly controlled. While the detailed production process will be tailored to suit the requirements of each client, there are a number of core stages that all pods will pass through.

Sound and moisture-resistant plasterboard is attached to the steel frame. If the pod is to be floored, waterproof tanking is applied to ensure a good seal, and if tiles are used, they are applied to the walls and floor in a pre-planned pattern. All adhesives and grouts used are of a high polymeric content, enabling the pod to be transported without suffering damage.

Sanitary ware is fitted directly to the steel frame of the pod, giving greater strength to the connections, a particularly important factor when producing floorless pods. The same is true of all fixtures and fittings such as shower screens, towel rails, toilet roll holders and kitchen units.

The pod is fully plumbed using a multilayer pipe system that allows for increased speed of installation.

Electrical installations are completed to comply with client requirements and terminated as agreed with the site mechanical and electrical team.



## **QUALITY**



A KEY FEATURE OF THE PRODUCTION PROCESS IS THAT EACH AND EVERY POD IS FULLY TESTED, CERTIFIED AND INSPECTED PRIOR TO DESPATCH.

Ensuring that our pods are manufactured to the highest quality standards is essential for a successful programme. The overriding benefit of utilising a production line methodology within a controlled factory environment is that it allows us to apply tried and tested quality controls throughout the entire manufacturing process.

Each pod is uniquely identified with an RFID tag throughout the process. This identifies and records the materials and processes that have been applied to the pod during each stage of manufacture. Production status, quality records and O&M manuals are stored on our web-based database, and all information is made available to our clients.

As each pod passes along the production line, the standard of work is checked at each stage before any further work is undertaken. This ensures any errors are highlighted and corrected before they can be compounded.

Testing of the plumbing includes full flush testing to ensure that all aspects of the pod are working correctly. The plumbing is fully pressure tested at 10 bar for two hours. Each pod is also tested and certified by a qualified electrician.



# ENVIRONMENTAL CONTROL

OFF-SITE MANUFACTURED PODS TRANSFER WORK FROM THE CONSTRUCTION SITE INTO THE CONTROLLED ENVIRONMENT OF A FACTORY, OFFERING BETTER QUALITY CONTROL AND IMPROVED CONSTRUCTION PROGRAMME. ANOTHER BENEFIT IS THE POTENTIAL TO REDUCE THE GENERATION OF WASTE - BY UP TO 50% OF COMPARABLE ON-SITE CONSTRUCTION, AND TO LESS THAN 1% OF THE TOTAL MATERIALS USED.

The design and manufacturing processes optimise the use of resources and materials by designing out unnecessary material waste and ensuring an efficient procurement chain. And the integrated management of the production line enables us to use the production waste of one line to complement the needs of the second, effectively creating an internal recycle and reuse scheme. In real terms, this represents significant cost savings.

Moreover, once delivered to site, the pods are directly installed into their final position and do not require any additional work, which means no waste is generated on the construction site.

Within the construction industry, it is widely acknowledged that the installation and finishing of the plumbing and sanitary ware in bathrooms and toilet areas are part of the critical path and often generate delays and significant waste.

Waste includes:

- PACKAGING
- ADHESIVES AND SEALANTS
- UNUSED TILES AND DECORATIVE TRIMS
- UNUSED GROUTING MATERIALS
- UNUSED OFF-CUTS PLUMBING AND ELECTRICAL MATERIALS

Additionally, the ambient environment conditions on site are not always ideal for the use of adhesives, and finishes often suffer because of rushed applications. The inferior end result inevitably creates snagging problems that, when finally rectified, increase the amount of wasted materials and resources.

The introduction of pods into the construction process provides a better and optimised design that takes into account several important aspects:

- DIMENSIONS OF TILES
- DIMENSIONS OF SANITARY WARE
- POSITIONING OF PIPES AND CABLES

This approach is highly effective in reducing wastage through off-cuts and the need to cut holes for pipes.



#### **DELIVERY AND INSTALLATION**

Prior to shipment, our pods are wrapped in heavy gauge plastic to protect them from the elements, both during transport and when on site.

The pods are designed to allow movement by forklift or vertical crane. Once the pods have arrived on site we supply specially designed jack-wheels that can be easily fitted to the pods. The wheels then allow the pods to be moved to their final position easily and efficiently, requiring the minimum of clearance.



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