

2D Modular

FCSP

OR

3D Volumetric

PPVC

OFF-SITE
CONSTRUCTION SOLUTIONS



FACTORY COMPLETED
STRUCTURAL PANELS

The differences
(and choices)
Explained



PREFABRICATED PRE-FINISHED
VOLUMETRIC CONSTRUCTION

Some simple basics. *(For ease of explanation)*

Think of a **wall**.

It has a **length**. - It has a **height**. - It is '**flat**'. - It is two dimensional: It is **2D**.

Now think of a **room**.

It has walls all around. (A back, a front, ends) - It has a floor. - It has a ceiling.

It has a **length**. - It has a **height**. - It has a **width**. - It has **volume**. - It is three dimensional: It is **3D Volumetric**

2D In very simple terms, TECHNIUM SPACES' advanced-stage '2D' steel-frame Prefabricated buildings ('RAMS') comprise of all in-factory completed steel-frame fully structural modular section (*in essence 3D*) wall panels, delivered and quickly assembled on site.

Starting from a pre-prepared concrete slab foundation, with all LGS (*Light Gauge Steel*) modular wall sections (*both external and internal, floor and roof sections etc*) all having been pre-manufactured and assembled in-factory before delivery.

- Yes our wall panels have got height, length and 'thickness', and are '3D modular elements'. But for ease of explanation, still essentially, 'flat panels'. All such modular walls panels include pre-factory installed / fitted appropriate insulation, air and moisture barriers, electric ducting, plumbing etc, as practical. (*Think 'flat-pack' furniture on a grand scale! - But with all parts fitting correctly . . . and no parts missing.*)

Once the structure is erected, sealed and secure, all internal fittings, fixtures, connections, finishing plaster and all decor is undertaken.

Note: In some projects (*subject to design*) the construction of all such completed '2D' wall elements would follow the assembly of a simple, prefabricated HGS (*Heavy Gauge Steel*) skeleton. (*This for addressing 'unsupported' terraces, cantilever roofs, walls totally of glass etc, and projects over 3 levels high.*)

The evolution of 3D It started from old shipping containers being used as site offices. Add a door, a window, and the secure 'Portakabin' was born. Then with more doors and windows, and rapidly completed, worthwhile size, easily delivered, quickly usable temporary accommodation solutions evolved. 'Modules' based on 'shipping container' dimensions is still very viable, (*and is applicable for many of our 'PLANET MODULAR' projects*) but always retaining the unmistakable overall appearance of the 2.4m width dimensions. - Perfect for business or vacation, but not everyone's ideal choice of a residential home.

'CONNOISSEUR VOLUMETRIC' Our next generation of that original concept, has reached a whole new level of sophistication and refinement.

Our 3D Volumetric assembly produces 100% bespoke, hand-crafted, state-of-the-art, high specification 'Connoisseur homes', of all shapes and sizes.

All individually precision manufactured to very advanced levels of completion, prior to delivery to site.

Utilising the latest technology and manufacturing techniques, and offering totally bespoke design and size opportunities, flexible specifications and finishes.

The Result: Very rapidly on-site completed, unique, highly individual and contemporary design homes and structures of all shapes and sizes.

3D 'PLANET MODULAR' and 'CONNOISSEUR VOLUMETRIC' 3D Fully Modular homes and buildings are of course, like 2D, still prefabricated.

But to a far more advanced level of in-factory completion than their 2D variants.

Comprising a full steel frame, insulated steel floor, fully insulated walls, (*external and internal*) insulated ceilings, roof, doors, windows, electrics & plumbing installed, and where practical, floor finishes and basic internal decor etc. (*Specifications vary between 'PLANET' and 'CONNOISSEUR'.*)

All pre-assembled, fitted and finished, in-factory, BEFORE delivery. - Essentially just some on-site internal finishing after the very quick assembly.

Entire 3D sections (*modules*) of houses, delivered ready for placement/connection to a pre-prepared concrete slab. (*300mm minimum.*)

Each module could comprise a number of smaller rooms, or even be just one 'thru-section' of many, to form one large open-plan room or area.

All modules are very easily and rapidly inter-connected, joined and / or multi-stacked to form the entire multi-level house or structure.

The end finish and visual result being of a totally 'traditionally constructed' and substantial house, but almost certainly being of far higher structural and thermal specifications.

- For those looking for exceptional speed and efficiency, a house can be potentially ready for occupation within just a few short weeks of delivery.

Design The opportunity for 100% design flexibility and freedom in all respects.

In some instances, an HGS skeleton frame is also incorporated, (*concealed within the structure*) so does not impact on any overall design requirements.

Size

No restrictions in terms of overall structure size, internal heights or number of levels, which can include hi-rise buildings. Suitable for all end-uses from luxury villas and hotels, to commercial warehouses.

Specifications

Structurally, bespoke manufactured to address all required global load and thermal parameters and conditions. Internal finishes available from the very basic 'shell', through mid-range to hi-end luxury.

Planning

Planning applications and regulations as applicable to any traditional form of permanent construction.

Time

Rapid, and far quicker than 'traditional' forms of construction. Subject to design and size, house completion within 4 months. (*Excluding foundations.*)

Foundations

300mm (min.) concrete slab. - Specifications subject to terrain, topography and ground composition. (*Geotechnic report*) On piles or stilts can be an option, with the inclusion and additional costs of a steel-frame floor.

Manufacturing, Supply & Shipping Costs

Subject to design and all specifications, but Manufacture & Supply costs potentially up to 30% less than an equivalent 3D project.

Shipping: On average +/- 60m² of structure / 40HQ container. Equates to approximately 50% of the costs of 3D.

On-site costs

Foundations: Subject to size, design, topography and geotech reports, but comparable to the requirements and costs of 'traditional' construction.

Completion time: Subject to size, design and complexity, but a 4 bed villa not uncommonly from 4 weeks to sealed and secure, to a 3 month period to full completion, utilising a competent 4/5 man team.

Design Extremely flexible for maximum freedom of creativity.

Size

No overall restrictions in terms of overall building size. Can be stacked to form hi-rise multi-level structures. Suitable for luxury and high-end projects. Commonly used in mass volume multi-unit projects, apartments and hotels.

Specifications

Structurally, custom manufactured to address all required load and thermal parameters and conditions. External and Internal finishes from the very simple and basic, to good quality 'budget-friendly' and hi-end finishes.

Planning

Dependent on local authority, but often classed as 'non-permanent', and granted permits that would be refused for a 'permanent' classed structure.

Time

Extremely Rapid. Subject to design and size, completion potentially with weeks, but regularly within a couple of months. (*Excluding any foundations.*)

Foundations

Subject to project. Large residential on a single slab. Smaller, and 'temporary housing' projects can also be just corner pads or strip / beam foundations, (*topography and geotechnic advised.*)

Manufacturing, Supply & Shipping Costs

Subject to design and all specifications, but Manufacture & Supply costs potentially up to (*and above*) 50% more than an equivalent 2D project.

Shipping: Globally, by standard carrier format. (*'Connoisseur' projects, by mega-truck, throughout Europe, and locations with vehicle ferry access.*)

On-site costs

Foundations: Subject to size and design, with opportunity to be simpler and more economic than of traditional or 2D prefabricated forms of construction.

Construction is INCLUDED with, and in the cost of *'Connoisseur'* projects.

Completion time: Subject to size and number of modules, but not uncommonly from one week for a single unit, increasing accordingly to number of connected inter-connected modules, external finishes etc. With far less time to completion and occupation, far less labour costs (*if any*) on site would be incurred.