Annex A Zed Pods Standards

General

Zed Pods Ltd are an architect-led turnkey modular build company providing high specification homes that are zero carbon in operation. Their focus is on the delivery of high quality modular buildings and associated services that meet, and in some cases exceed, all relevant statutory and regulatory standards. They provide eco-friendly, affordable housing solution through the utilisation of volumetric offsite MMC technology.

They are part of a number of approved public sector procurement frameworks including the Building Better MMC Category 1 and 2 Frameworks and SWPA (South West Procurement Alliance) MMC New Homes NH3 (previously NH2). They are also a Crown Commercial Service and NHS approved supplier.

They also hold the King's Award for Enterprise for Sustainable Development, awarded in 2024. They are a Certified Delivery Partner of "Zero Bills" by Octopus Energy, while Zed Pods' manufacturing business holds B-Corp Certification - a designation demonstrating that a business is meeting high standards of verified performance, accountability, and transparency on factors ranging from employee benefits and charitable giving to performance, supply chain practices and input materials.

Design, Architect and Quality

Zed Pods controls the build from design, planning, manufacture and onsite construction.

This is further overseen by the following ISO accreditations:

They have an in-house architectural design team with the following accreditation and registrations:

- CIAT (Chartered Institute of Architectural Technologists)
- RIBA (Royal Institute of British Architects)

Their residential build system has an in-depth and independently verified structurally engineered approach as set out below. This includes all the current and proposed systems in use of Mid Devon Housing schemes.

Zeds are also now an ISO 19650 organisation ((LRQA accredited). ISO 19650 is an international standard that enables the secure management of information across the entire lifecycle of a built asset using Building Information Modelling (BIM). It follows the same principles and requirements as the UK BIM Framework and is closely aligned with the existing BS 1192 standards. One of the key benefits of BIM is that it provides clients with a "digital asset", enabling a fully traceable "Golden Thread of Information". This supports streamlined access to information, cost-effective proactive maintenance, and reduced downtime for repair works.

Engineering and durability

Zed Pod engineers are CEng, MISTRUCTE, MICE accredited personnel (Chartered Engineer, Member of the Institution of Structural Engineers and Member of the Institution respectively). They are also Approved Certifiers of Design (Building Structures) and cover all aspects of the building structure. They further hold SCI membership and ICW accreditation (Steel Construction Institute and Insurance Company of the West respectively).

The Zed Pod modules have been fully engineered for snow and wind loads in multiple exposure locations in the UK.

Their residential designs are a certified building system developed and tested by the Building Research Establishment (BRE).

This is backed up by accreditation with BOPAS (The Build offsite Property Assurance Scheme) which includes the steel frame systems used on all Mid Devon schemes which holds a minimum durability assessment of 60 years.

Zed Pods also holds the industry leading ICW Endorsed accreditation. This follows a rigorous technical assessment of the Zed Pods build system to ensure it meets ICW's stringent technical requirements. ICW Endorsed is a bespoke accreditation scheme for Modern Methods of Construction (MMC) offsite systems for use in conjunction with ICW A-rated structural warranties.

All Zed Pod modules supplied to the Council have triple-glazed windows and doors. These last up to three times longer than standard uPVC units, offering significant long-term maintenance savings.

The modular units exclusively use copper pipes instead of plastic, as copper is known for its strength and longevity - often lasting several decades

Safety and performance

All schemes completed hold full planning permission and have full Building Control approval and sign-off prior to occupation.

In addition to those engineering and durability standards set out above, in terms of specific safety and performance:

Energy – all building provided to Mid Devon are EPC A+ Highly Efficient Buildings: super-insulated, air tight homes with minimal energy demands (ENE1 9 or 10 credits under the Standard Assessment Procedure or SAP). The design incorporates the lowest running costs and modern low-carbon technologies ensuring ultra-low energy consumption and cheaper running costs, with solar panels to generate renewable electricity in the day, quiet running heat pumps for low energy heating, controlled ventilation which recovers usable heat from inside the building whilst bringing in the fresh air.

Space standards – all residential schemes meet the nationally described space standards. As the formal Principal Designer and developer, Zed Pods are responsible for incorporating this into each building design and this is checked by MDDC Development Control at Planning Approval stage to ensure the minimum standards are met. Post-completion, as built measurements have been taken at several schemes to further verify compliance.

Fire – all the Zed Pods buildings and construction processes meet or exceed the 2022 Building Safety Act requirements. Under their build system all materials used are A-rated for fire and have full fire stopping logs in compliance with the “golden thread”, enhanced by digital technology and record keeping. All materials carry performance declarations and/or BBA certificates. All our modules use stone wool insulation (A-rated) and their modules have never used combustible insulation materials or cladding. The party walls are fire resistant up to 60 minutes on both sides of the wall, effectively giving the modules 120 minutes before a fire in one module would break through to the next. This is well above the requirements under building regulations.

The modular units use only fire-rated plasterboards and certified fire doors throughout the buildings to enhance fire protection and withstand heavy use.

In addition, the homes in Mid Devon include remote monitored AICO sensors for smoke heat and moisture detectors to provide an extra layer of monitored fire safety.

Overheating – all Zed Pods buildings exceed Building Regulation Part ‘O’ requirements and include both passive and active cooling technologies where required. This includes Dynamic Thermal Modelling assessments as required

following the full Chartered Institution of Building Services Engineers (CIBSE) TM59 Design methodology.

Mould risk - mould risk has been carefully considered. As a social housing provider, we must comply with all regulatory standards including new, stringent requirements under Awaab's Law. As such, this has been a key design consideration to ensure that our new modular building future-proofed and mould protection is built-in. Fully breathable walls prevent moisture build-up without compromising airtightness or thermal performance. The Mechanical Ventilation with Heat Recovery (MVHR) linked heating and ventilation systems prevent the mechanical ventilation being switched off so the buildings are continually ventilated in a controlled manner. Zed Pods have had buildings in constant occupation since 2020 without any issues.

RAAC - reinforced autoclaved aerated concrete (RAAC). RAAC material have been widely publicised in recent years due the failure of the material in public buildings including schools and hospitals were expensive building remediation or replacement has been required.

It was used mostly 1950s and 1990s as a cheaper alternative to standard concrete that was quicker to produce and easier to install. However, it is less durable and has a lifespan of around 30 year with a structural behaviour differs significantly from traditional reinforced concrete.

No RAAC has ever been used in Zed Pods buildings or homes.

Other specification and social value

Acoustic performance – high performance acoustic rated insulation materials, high performance glazing (inc. triple glazing) and enhanced party wall details create exceptional, above traditional build standard acoustic attenuation

Neurodiversity - together the enhanced energy specification performance as set out above, the acoustic performance and high levels of natural lighting bring benefits for neurodiverse tenants.

Healthy living - no toxic materials with be used and no urea-based insulation systems deployed with low VOC paints and adhesives, vapour-permeable, breathing wall construction.

Prisoners Building Homes Programme - Zed Pods are the largest employee within the PBH. 31 day-release inmates have worked so far in the Zed Pods factory which is a third of the workforce. National living wage paid where up to 35% goes to Victim Support and remaining wages are held in trust for prisoners on release to support rehabilitation, employment and accommodation. Prisoners are upskilled; NVQ's, Forklift/ Scissor Lift skillset with wraparound support including mental health. This provides them with core employment skills for the future and overall Zed Pods reoffending rate under 3% against a national average of between 25-50%. The Ministry of Justice have estimated that for every £ spent gives a £3 return.

Engagement with PBH has meant Mid Devon have recently been able to access additional grant funding from the Ministry of Housing, Communities and Local Government towards specific development schemes, reducing net costs further.

Considerate Constructors – all Mid Devon Zed Pods projects have been managed under accreditation to the Considerate Constructors scheme. This includes meeting the Code of Considerate Practice which embodies the high standards the industry can and should achieve. There are clear, attainable guidelines in the Code that help Zed Pods and its sub-contractors make positive changes to the way they work including managing the impact on neighbours and the public, minimising or enhancing environmental impact and valuing the workforce through a supportive, inclusive, and healthy workplace.