

PLATFORM PRISON DESIGN AND BUILD

PCE's Secure Prison solution, fully compliant with Home Office and NOMS design guides, ensures safe, high-quality, and efficient prison construction with predictable outcomes. This scalable platform DfMA approach leverages repeatable designs and standardised, offsite-manufactured components, each cast with essential security, M&E, and utility integrations to optimise quality.

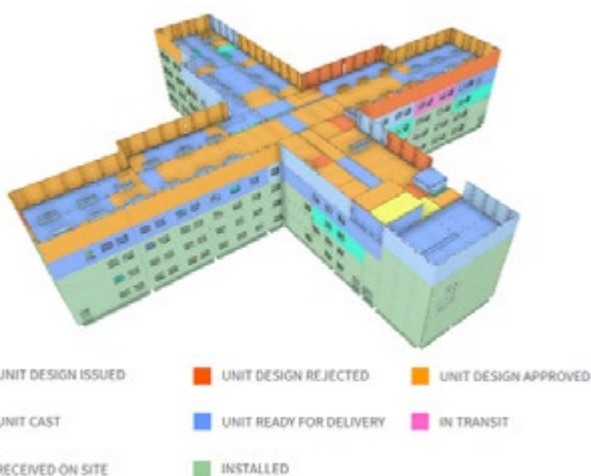
These pre-engineered components form a 'Kit of Parts', quickly assembled onsite to create a robust, monolithic structure with superior acoustic, thermal, and fire-resistant properties. By assessing embodied carbon from stages A1-A5, the solution also minimises environmental impact throughout the structural delivery phases.

Secure Prison has become the benchmark for success across the UK prison estate, with PCE handing over circa 7,000 prison places across multiple prisons, including HMP Five Wells, HMP Fosse Way, and HMP Millsike.



Modern Methods of Construction

- Modular solution – high quality, high control
- Optimised kit of parts within a DfMA philosophy
- Digital design, advanced BIM, and comprehensive digital twin technology enhances detail, insight, and performance
- Predictable and assured geometric features, limits, and tolerances
- Innovative manufacturing technology and automation
- Seamless integration of M&E, utility, and security components
- Smart integration and connectivity for repeatable, safe, and simplified assembly
- Components can be interchanged and configured to suit unique needs



Houseblock components being tracked

Safety

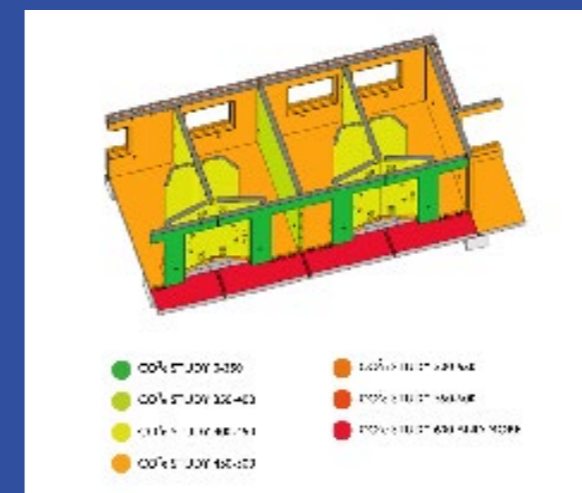
- Detailed digital design incorporating temporary works analysis
- Risk reduced through design controls with innovative safe systems of work
- Standardised methodologies and techniques remove ambiguity, reduce error, and elevate safe working practice
- Repeatable houseblock X wing design improves officer safety



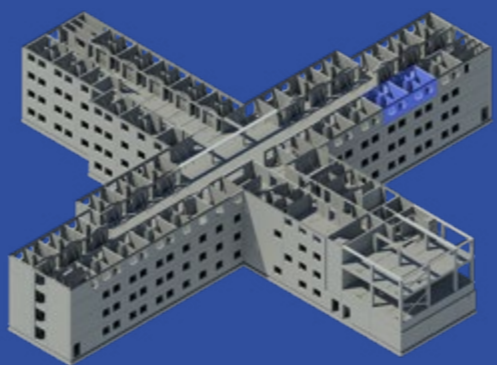
Offsite manufactured repeatable components in storage yard

Embodied Carbon (EC)

- Extensive collaborative studies across multiple modern prison builds
- Identified meaningful, realistic, and achievable change opportunities across all of design, manufacture, logistics, and assembly
- Optimized strategies saving up to 40% embodied carbon against ICE benchmark, with significant commercial and programme benefits
- Savings of 195 tonnes of EC per houseblock with ongoing efforts to reduce further
- Cradle to grave strategy for holistic solution
- Repeatable efficiencies create significant scalable benefits across NPP



Heatmap of secure cell carbon



HybriDfMA Secure - Prison system T60 model

Continuous Improvement

- Builds on established success and proven efficiencies
- Systemised platform approach enables progressive iterations
- Constantly evolving libraries of standardized kit of parts components and techniques drive continuous enhancement

Proven Programme Metrics

- Up to 50% reduction in construction programme
- Up to 90% reduction in waste
- Up to 80% reduction in site deliveries
- Up to 80% reduction in onsite personnel
- Reduced follow-on trades required

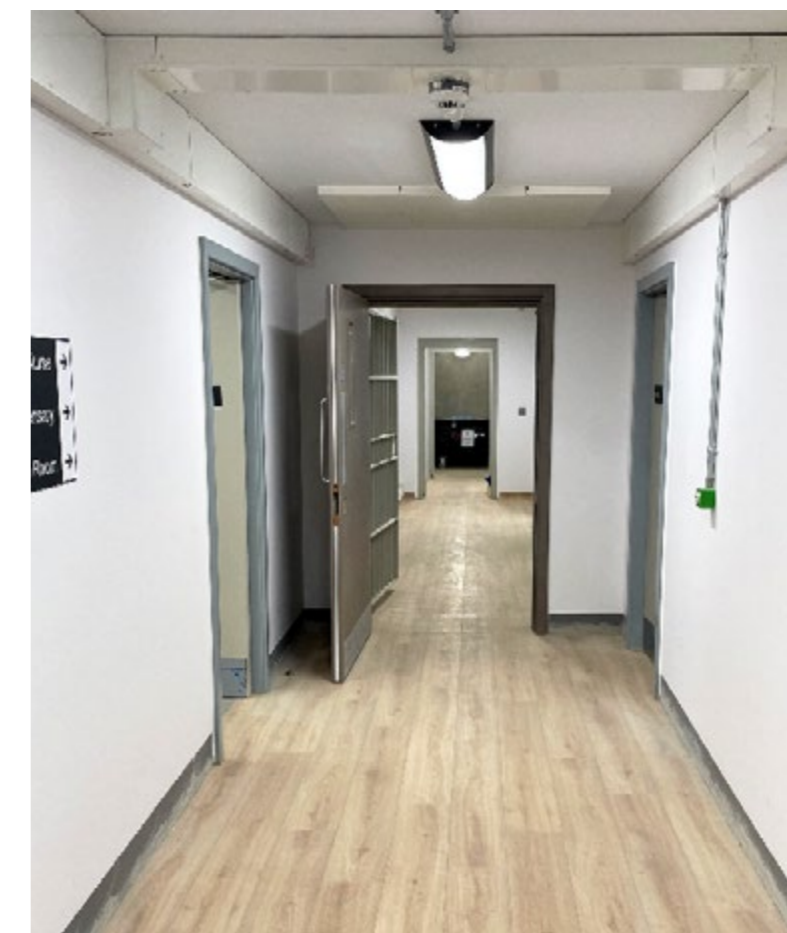
The model serves as the blueprint for success in the design and build of high quality, highly secure, modern prisons:

Across the NPP to date, PCE in collaboration with the MoJ have delivered:

- Over 41,500 offsite, precision engineered components
- Over 179,000 M&E, utility, and security integrations
- Over 7,000 secure, high quality, modern prison places handed over



HMP Fosse Way in construction



HMP Fosse Way interior of wing

Quality

- Repeatable, scalable, and predictable systemised solution
- Fully Home Office and NOMS (National Offender Management Service) compliant
- High quality product innovation
- High level thermal, acoustic, vibration, fire, air and water performance
- Comprehensive digital strategy and data driven insights
- Standardisation creating consistency in platform approach
- Continuous improvement and refinement
- Flexible, adaptable supply chain – no ceiling on capacity, capability, and scale