

husk

Flexible Life Buildings

reuse redeploy regenerate



Principles of Deployment

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HUSK

The HUSK building system

HUSK is a Flexible Life Building (FLB) a structure built following the resource efficient principles of Design for Deconstruction, in particular reuse, rapid deployability and adaptability. – they are a range of modules and accessories that can be utilised singularly or combined to form larger buildings, and structures.

Foundationless, FLBs are sited directly on to prepared ground and when no longer required or after a given period of time, generally 5 years plus, they can be removed and re-deployed to an entirely different location or locations, utilising some or all of the modules in the same or a different configuration.

.On completion of the deployment the land can then be returned back to as close to its original condition If requirements change during their deployment the FLBs can be adapted or added to throughout their life.

Foundationless and reusable construction is still one of the most effective techniques to employ to reduce carbon emissions. This aligns with the principles of the circular economy, “Keeping resources in use for as long as practical then, re-purposing and regenerating at the end of their life”.

The key to the HUSK system lies in its flexibility to seamlessly integrate both new and reused or recycled components within a single build. The core structure is formed using mass timber CLT panels, while ancillary components—such as cladding, doors, windows, and roofing—are designed to fit to the modules through standard universal connections, enabling easy assembly, use and reuse. Standardisation gives HUSK the ability to use a wide range of materials and suppliers for their builds.

HUSK takes advantage of resource efficient building technologies from lighting, heating to water conservation to lessen their impact on the environment, with the aim to make them highly energy efficient and affordable to run and maintain.

By actively prioritising bio-based materials, mass timber, and reusable or reused components, HUSK achieves a carbon-negative status while significantly lowering its Global Warming Potential (GWP) when compared to typical sustainable builds.

The HUSK system has been developed to procure its material and components in two distinctive methods; Either by utilising sustainably sourced building materials and construction methods. Or by repurposing materials and components from unrelated deconstructed structures. This is facilitated through platforms like the CIRCulT Materials Reuse Portal or similar platforms, effectively prolonging the lifespan of materials and averting premature disposal. Our goal in reusing building materials is to markedly diminish the environmental footprint of FLBs across all stages of construction, deployment, and operation.

BUILDING of HUSK

Stage 1 - Ground preparation

Site is cleared, levelled and depending upon ground condition compacted to an agreed level to support the modules

Stage 2 – Services

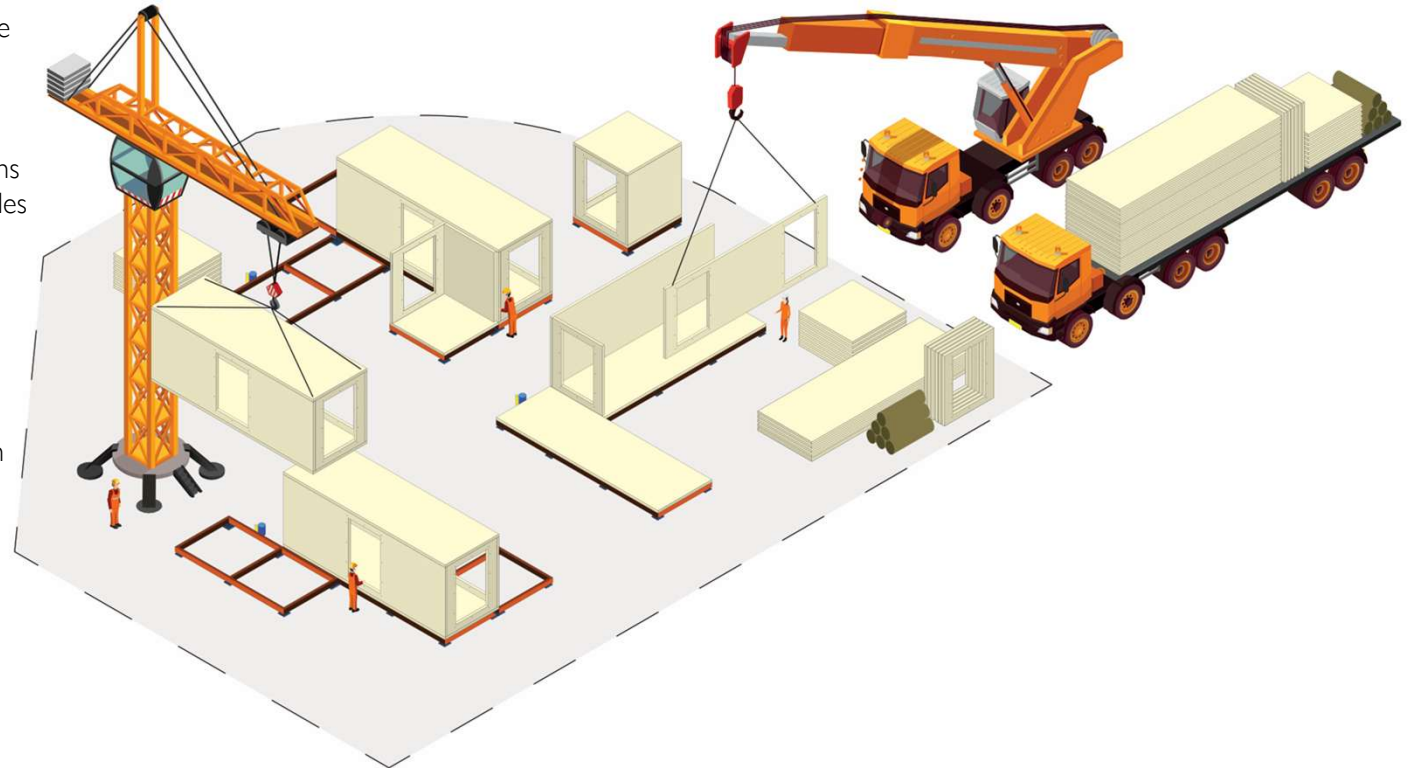
If connection to water, waste and power are required these are brought to site in agreed positions prior to primary connection to the 'Service' module – Services can run either above ground with suitable protections or below ground to service individual modules or blocks

Stage 3 – Grillage

The steel grillage is delivered in sections to site and installed, set level using adjustable foundation pads – it's possible to use alternative or any retractable foundation systems

Stage 4 – Module Build

All of the components arrive directly from the suppliers, pre-machined and flat pack. These are then built permanently into one of the three HUSK modules.



BUILDING of HUSK

Stage 5 - Module Connection

Once built modules are connected
To the steel grillage and then joined using a
range of off-the shelf HUSK approved
plates, screws and through-bolts.
Components are specified for their ability
to be used and then reused on future
HUSK deployments.



BUILDING of HUSK

Stage 6 - Module Cladding and Roofing

Modules are clad with insulated cassettes of three sizes – These cassettes are attached to the modules using a standardised cladding rail and fastening system. This common system, allows for interchangeability between both suppliers and types of cladding on a single deployment or module

Doors and windows are installed on to the module using standardised fittings designed to be interchangeable. As the door, window and module joining apertures can use the module connection points

The fully insulated roofing cassettes are supplied in three size types and installed directly to the CLT module via a range of standard fixing – Watertight membrane flashing applied on site





DEPLOYEMENT of HUSK

Meanwhile Sites

Deployment of Husk modules onto a Meanwhile site or utilised as part of a phased construction scheme and deployed onto several sites over programmed timescale

Husk is a re-deployable building system that will enable the utilisation of land that is not suitable or viable for more permanent builds unlocking the social and economic value.



DEPLOYMENT of HUSK

Municipal Sites

Deployment of Husk modules when there is a need for easily deployed additional space.



DEPLOYEMENT of HUSK

Materiality

Examples of finishes and materials for consideration in a HUSK deployment



DEPLOYEMENT of HUSK

Materiality

Examples of finishes and materials for consideration in a HUSK deployment

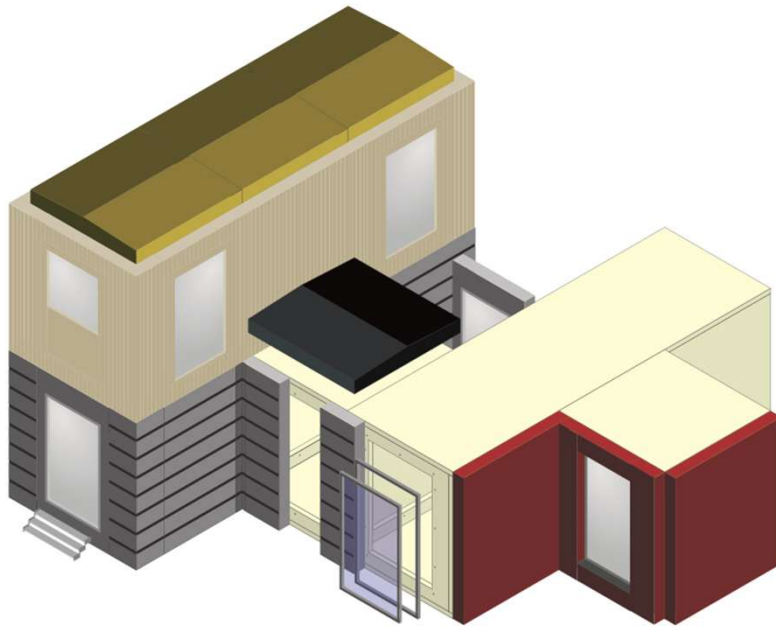


BUILDING COMPONENTS

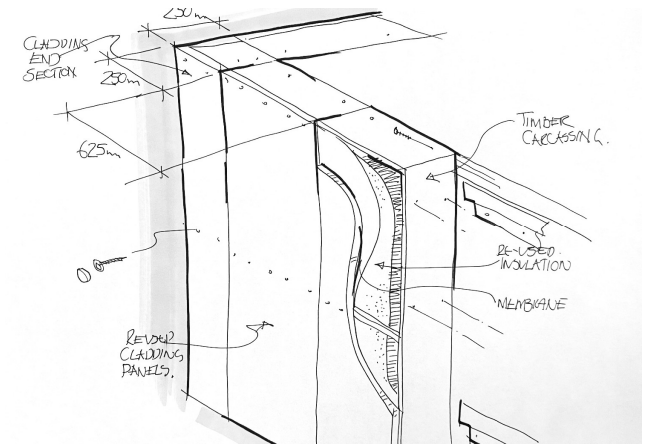
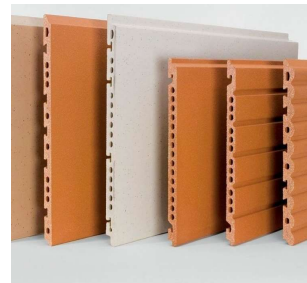
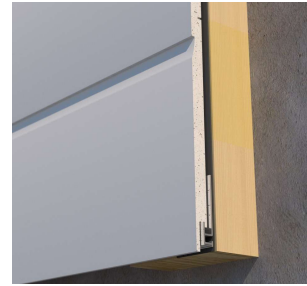
Adapting pre-used cladding

Apart from using bespoke manufactured cladding cassettes The HUSK system has been developed to reuse materials and components from other unrelated deconstructed builds, materials Reuse platforms thus extending the materiel's life and preventing early disposal.

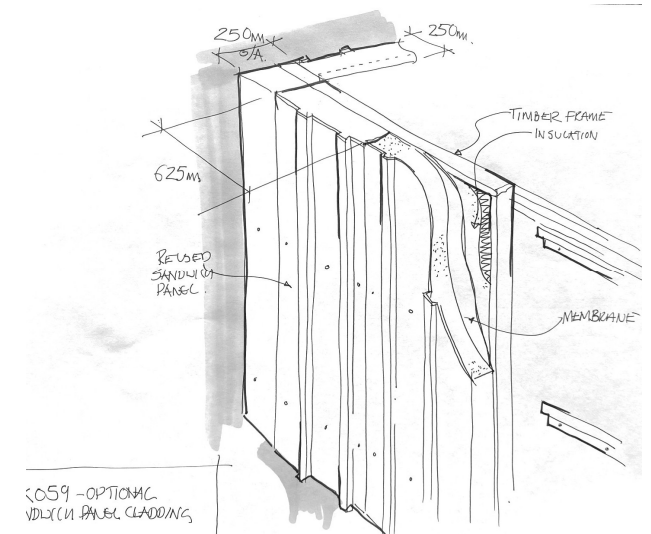
These cladding panels are adapted to enable installation on to the universal cladding rail as well as utilising CLT fixings. Panels can be supplied in either standard sizes of multiples of thereof and can be combined with bespoke panels on the same module



HUSK Build showing installation a range of adapted cladding panel



Typical HPL installation



Typical sandwich panel installation

BUILDING COMPONENTS

Meanwhile Planting

HUSK collaborates with the Beth Chatto Educational Trust, which has developed a planting method tailored for Brownfield and Meanwhile Spaces. This "Right Plant, Right Place" principle, originally established by Beth Chatto, and supported by ongoing research from the University of Essex and the Essex Plant Innovation Centre. – put plainly, by planting where a plant wants to be it will flourish.

The selected plants are adapted to periods of low rainfall and nutrient-poor soil, allowing them to thrive on Brownfield or meanwhile sites with minimal maintenance. Most importantly, they require no watering, making them well-suited to combat the challenges posed by climate change. These plants are chosen to suit both drought- and heavy rainfall

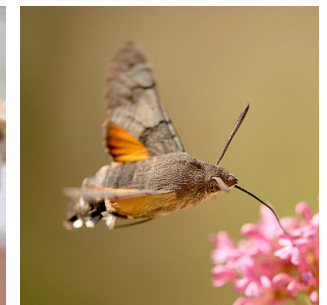
In comparison to traditional commercial planting, the "Right Plant, Right Place" approach has been shown to increase biodiversity by up to 25 times. The insect-friendly plants attract a wide variety of pollinators, which, in turn, support wildlife higher up the food chain. Research by Dr. Chris Gibson found that 120 different insect species were recorded on a Meanwhile site, compared to just 6 insects on nearby lawn-only site.

Chosen for their ability to flourish without additional soil amendments or topsoil, the plants are placed in the gaps between the existing broken hardcore and rubble.

Biodiversity increases by up to 25 times including Mint Moth, House Martins & Hummingbird Hawkmoth



Plants chosen for poor quality soil



DEPLOYMENT of HUSK





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