

Getting to grips with transporting, storing and installing offsite components



Modular housing can be tested during its development stage for structural and environmental performance – there are a myriad of different test techniques that will prove the modules or panels are fit for purpose when constructed in the factory. The unknown is the effects of transporting the panels or modules to site.

Transport, storage and installation issues can have a large impact on the end use of the building. Panels can be damaged during any of these stages. Inadequately stored panels can deteriorate if unprotected due to weather or fail when put under load due to poor storage and transportation techniques. Installation has the additional problem of designing suitable panel lifting points that do not impact on the way the panels join to form the building, whilst being adequate to enable safe lifting. The transport, storage and lifting techniques also impact on the costs of the overall build and hence any savings that can be made during the construction process can be factored into the overall project cost, thus providing an advantage during the initial tender process.



Finding damage sustained is not always easy. The opening up of joints can be hidden behind sheathing or plaster boards but will impact upon thermal and acoustic performance, and in more extreme cases, can affect weather tightness. Poor transportation may affect windows and doors with stresses acting at the corners which can result in cracking or damage to the window casing or glass. Panels can be damaged through placing them down, particularly if the load is not centred and the panel lands on one corner or partial edge first. This can cause extensive damage and prevent the panel being bolted down to the foundations correctly or lining up with other panels or modules, and can require repair or create areas that may not be waterproof or structurally sound.

Additional bracing or increased material thickness may be required or used to help the transportation and lifting process. These measures add further costs to the build and are quite often redundant once the panel is installed and in use.

The success of the transport and installation of the panel or module should be assessed to understand the impact of any damage

sustained. This provides the manufacturer with the advantage of keeping panels that may at first glance have otherwise been disposed of, or more importantly justifying the disposal of a panel that could fail further down the line.

Transporting modular buildings has an impact on costs. Handling techniques and storage can impact upon the carbon footprint and effect safety requirements during installation. A factory-built system creates a consistent and quality product that is not found in traditional build; however, the success of a modular building is dependent on the factory-built components arriving at site and being erected on site in the same condition as they left the factory.

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