



**CLIVE THOROGOOD
BUILDING SURVEYING LIMITED**

Technical Note 6: NON-TRADITIONAL CONSTRUCTION

Background

When surveyors talk about traditional construction, they generally mean a building with the structural form comprising loadbearing masonry in either a stone, solid brickwork or a cavity wall construction, with the main roof weathered with clay tiles or slates. The vast majority of properties in the UK are constructed in 1 of these formats.

However, after WW1, there was an immediate need for housing. A lack of 'traditional' materials and skilled men meant that the required number of houses could not be built within a reasonable period of time. The relatively low-skilled workers in factories, which had been producing wartime armaments, could mass-produce building components for easier site construction and this is what developed in a large scale over the next 50+ years.

Several hundred different 'Systems' of building were established, up until building controls were introduced in the 1970's. The 'Systems' were based on houses built using any of the following 4 building types: -

Numbers of 'Systems' built

- | | |
|---------------------|-----|
| • In-situ concrete | 85 |
| • Pre-cast concrete | 191 |
| • Metal frame | 142 |
| • Timber frame | 262 |

Total 680

Despite WW1 creating the demand for faster, system-built housing, it was WW2 that really pushed the programme along and 450,000 houses were built in the post 1945 decade alone.

In total, approximately 1.5 million residential dwellings were constructed using non-traditional methods.

After the 1980's, the Government began to be made aware of certain inherent defects with a number of these 'Systems', often relating to condensation and water ingress leading to corrosion of steel and/or concrete, or fungal decay to timber frame and/or cladding elements. Following a widespread assessment of all of the building systems', 34 were identified as and

are now categorised as 'Designated Defective', meaning that site identification of any buildings by a surveyor in any of these categories requires notification to the BRE (Building Research Establishment) so that they can track their location. Some Local Authorities have separately identified other types.

At the time of the 1980's categorisation of the 'Designated Defective' housing, there were at least 185,000 properties falling into one of these defective 'Systems'. How many of these, or indeed, the wider pool of all non-traditional housing, have since been demolished, is unknown. However, it is safe to say that there are probably still many thousands of such properties in use. Many were sold privately under the 1980's 'Right to Buy' scheme and have since been refurbished, overclad or otherwise altered in an attempt to correct some of the many inherent design issues.

Identification of non-traditional buildings can be challenging; some of the systems have, for example, an external skin of brickwork laid in stretcher bond over a steel or timber frame. This can, at first appearance, appear externally like a cavity wall construction and the devil is in the detail for the surveyor to identify clues as to its real construction.

Invasive inspection of the structural elements is rarely possible during a routine Building Survey inspection. However, there may be openings available in the external fabric for services/ductwork penetrations, or the loft inspection may reveal the original external wall fabric, if the building has been extended and the surveyor can maybe see down the original wall structure. A combination of detecting a void behind an internal plaster wall may signify a frame structure, measurement through the external wall or using a range of electronic detectors to identify possible steel or concrete frames can start to build-up a picture of something 'non-traditional', where more invasive investigation may be required to provide some clarity on construction form, condition or performance.

It is worth mentioning, that there are many other types of non-traditional building; ironically, these are often very 'traditional' in construction, being of cob, wattle & daub, flint or straw bale construction. These are visually very different and will be obvious as such.

Modern buildings are increasingly being built, or extended, as non-traditional, with timber or steel frames and then overclad, so these may initially present as a traditional build.

Some Georgian buildings were built with 'mathematical tiles'. These are bricks made in the form of thin tiles and hung vertically over an inner brickwork skin to give the appearance of a traditional solid brick wall. Again, there are clues to this and the surveyor should be alert to such buildings.

Properties of non-traditional construction, 'Designated Defective' or otherwise, can often be a source of concern for buyers and mortgage lenders alike, as some suffer defects not found in the general housing stock and might require expensive repairs. Accessing the building

structure to undertake repairs can be more expensive and can require more specialist skills, so adding to the cost. There could also be implications around e.g. fire integrity, if your building has a old timber frame, an unprotected steel frame or a thatched roof.

Discovering that your property is of this form of construction is not necessarily the start of it being condemned in this way, but it will need further thought. Separate insurance policies are available for such buildings and you are asked during the insurance application this specific question. Your surveyor should have provided the answer.

Always seek professional Building Surveyor advice for a complete assessment.