

Betongfeber - Sweden's Concrete Fever

A Swedish magazine recently featured a photograph on its front page of a glamorous young model with a bucket of concrete in one hand and a trowel in the other. The headline read 'Concrete Fever'. This was not an advertisement for the Swedish concrete industry, but rather an image which represents what is currently 'hot' in Sweden. Yes, concrete is making the headlines – and its sexy!

Concrete is less likely to arouse emotions here in Ireland. It is as commonplace almost as the air we breath or the water we drink and is taken as much for granted. Not so in other countries. In Finland, concrete is prized as a construction material and homeowners aspire to one day owning a 'Jamera' masonry home - the BMW of home's in Finnish terms.

The attitudes of our Northern European neighbours to quality housing is worth noting. A recent attempt by the Swedish government to support the development of multi-storey lightweight framed apartment buildings (for political reasons), resulted in a number of white elephant projects. Swedish consumers were not interested. In the Scandinavian countries, constructing apartment buildings means only one thing – concrete.

A similar phenomenon is developing in America, where the biggest growth in home building is in concrete construction and particularly in insulated concrete formwork (ICF) systems. In Spain, Portugal, France and in all of the developed countries close to the equator, housing is virtually 100% concrete. The popularity of concrete in these countries is related to 'thermal mass' or the ability of concrete to absorb heat, effectively counteracting the phenomenon of 'rapid heat gain' associated with lightweight construction. The projected rise in summertime temperatures in Ireland, combined with the increased use of south facing glazed facades, places increased

importance on the use of exposed concrete construction elements.

Trends come and go, but the trend towards concrete in some of the most economically advanced countries has a deeper rationale. In the United States the trend is primarily associated with global warming and the resulting increase in the frequency and strength of storms and hurricanes. The 'el nino' phenomenon is an additional factor and recent events such as the 'New Orleans Hurricane' have pushed the durability and robustness of homes to the top of the consumer agenda.

In Ireland the robustness of homes has historically not been an issue. With the exception of 'the night of the big wind' on January 6th 1839, where many buildings were heavily damaged in a freak storm, and as many as 300 people lost their lives, there is no historic record of problems with our housing stock. Until recent times that is! Dissatisfied home owners now regularly contact radio consumer programmes to complain, typically of noise problems and poor quality of construction. Much, but not all of this problem is related to the replacement of heavyweight structural elements, such as replacing block party walls between semi-detached houses, with lightweight elements. For the consumer, who is typically unaware that they are purchasing a property without a solid block wall between them and their neighbours, this is an unfortunate trend. To improve the standard of housing in Ireland we must look increasingly towards the use / restoration of robust party walls between properties and to the use of concrete floors, both of which have excellent soundproofing and fire resistance properties. Whatever the current trend in building, the inherent properties of materials have a significant effect on the quality of the end product. Concrete has incredible inherent properties and this is what makes it so robust as a construction

material. Concrete will not warp, rust, rot or burn: it will not add to the fire load by becoming fuel in a fire, create smoke or give off toxic fumes. These are just some of the inherent beneficial properties of concrete.

In Ireland masonry construction continues to be popular with over 75% of the homes qualifying for SEI's energy efficiency 'house of tomorrow' scheme being of masonry construction. Almost all of the remaining 25% had a masonry exterior. However, a quiet revolution has been going on for some time in the concrete sector. Insulated concrete formwork (ICF's) has been quietly gaining ground and there are now about a dozen suppliers of formwork systems and two manufacturers of ICF's on the island of Ireland. The Irish Concrete Federation has been closely monitoring developments in this area and are now of the opinion that ICF's will have a substantial role to play in the future development of housing in Ireland. When used in conjunction with precast or in-situ concrete floors, ICF's are extremely soundproof, robust and durable. These systems have extremely high thermal insulation performance combined with 'low air filtration'. In addition some of the manufactures supply highly insulated, interlocking roofing elements which do away with the need for conventional timber trusses. Using ICF's is the easiest way to construct a 'passive house' i.e. a houses which require no heating system. The recognition of the need to conserve fuel and energy and reduce Ireland's CO₂ emissions will further accelerate the penetration of ICF's in the Irish market. Some of these new systems have remarkable all round performance.

And of course

**Concrete Built *is* Better Built and Sexy
- as the Swedes say!**

