

FACT FILE 5: The Environment

The Environment

Consumers are becoming increasingly concerned about the environment. They need to be able to make informed decisions about the impact of their activities.

The policy of the National Association of Steel Framed Housing is to support informed public debate on the issues and to provide factual information to enable specifiers, designers, householders and others to make sensible decisions.

Construction using any building material has some impact on the environment. Effects can occur in production, transport, distribution, the building process, service or disposal. Consumers are urged to consider the wider picture. They will be bombarded by isolated "facts" given out of context to create a favourable image. For example, the planting of trees is promoted as a wholly good thing: "young growing trees use carbon dioxide from the atmosphere". The loss of native habitat, the use of pesticides and herbicides, and the downstream effects of the planting of introduced species of trees on large tracts of land are conveniently ignored.

Design-professionals, and particularly architects, strive to specify materials that minimise harm to the environment. They are among the leaders in the drive for buildings that are as friendly towards the environment as possible. Independent bodies (and some steel producers) around the world have performed life-cycle analyses on the environmental impacts of using steel. Based on the results, well-informed architects freely specify steel products in their various forms for projects of all sizes, including single and multiple dwellings.

Steel is 100% recyclable, and approximately 60% of all steel in use in Australia has been produced from recycled scrap. Steel recycling programs reduce the solid waste stream, resulting in saved landfill space and the conservation of natural resources.

Steel frames provide excellent design flexibility, enabling the design, orientation, and construction of energy-efficient housing that is not only extremely "liveable", but minimises total energy consumed in heating and cooling over its lifetime. This saves the householder money, and just as importantly lessens the impact on the environment.

Elevated steel sub-floor systems enable construction on fragile sites to proceed with less disturbance to the site. Interference with natural contours can be minimised, retaining natural control of storm-water and reducing downstream sedimentation. Also, an elevated steel sub-floor system acts as an excellent chemical-free first line of defence against termites.

Steel frames are lightweight but strong. They are made of thin gauge, high tensile steel and have been engineered to achieve a very high efficiency of material use. Because steel properties are predictable, over-engineering is minimised and no superfluous material is designed in.

Steel frames are fabricated from components made specifically for each individual job, thus minimising wastage due to scrap. Scrap wastage on the actual building site is also minimal because very little if any cutting is required.

Termites cannot destroy steel frames. Thus, in accordance with the Building code of Australia, there is thus no need for the repeated use of toxic chemical treatments to defend the perimeter of the house against termite attack nor is there for the use of treated timber in the house. This avoids potentially harm to the environment and to the people who may come in contact with the chemicals.

Steel frames have proven ideal for the "healthy home" concept. The incidence of asthma and sensitivity to chemicals is on the increase and steel frames have been used to achieve allergen-free and dust-free interiors. This requires techniques such as special sealing around windows, moisture barrier systems in the walls, extensive insulation, and whole house ventilation systems. Steel frames retain their original dimensions, which is a major factor in maintaining effective long-term sealing.

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