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STEEL FRAME – SUSTAINABILITY CREDENTIALS?

Environmental stress and depletion of finite resources – lightweight steel is ideally suited to meet these challenges

ENERGY USE AND CO2

- Energy efficient design reduces CO2 production in service and this can be improved by off-site production
- A typical UK 2 storey house in steel construction consumes 100 – 150kWh/m2 per annum in service (for 100m2 floor area) which is up to 30% less than traditional buildings
- Embodied energy is minimised, the steel use is typically only 40kg/m2 floor area i.e. reduced foundation requirements due to the inherent strength to weight ratio
- High levels of thermal and acoustic insulation can be achieved cost effectively
- Typical U values of 0.15W/moC
- Improvements in air tightness will be seen
- Excellent sound insulation >60db sound reduction

MATERIALS

- Steel is rated A or A+ on the BRE's Green Guide to Housing Specification 2007
- Steel is 100% recyclable and can be recycled again and again with current technology, without any degradation in terms of properties or performance
- Transport to site is minimised by pre-fabrication with 'just in time' deliveries
- Off-site manufacture means minimal, if any, site waste with no landfill requirement. All waste is recycled
- The value of the components is maintained when the building is dismantled
- A stable material free from movements and cracking due to shrinkage and creep. Robust and durable

POLLUTION

- Steel components are inert and do not deteriorate or lead to waste
- Non-combustible, does not add to fire load, does not produce toxic fumes
- Water use minimised by the 'dry' process on site