

# WHY USE TECHNOpor®?

## Design

- TECHNOpor® is formally approved as a load bearing thermal insulation material for use in conjunction with the construction of permanent buildings.
- TECHNOpor® provides both the structural base and insulation to ground bearing floors. As such it replaces the use of granular sub-base, sand blinding, concrete over site and insulation. Where suspended ground floors are envisaged, other than those where a ventilated void is required in conjunction with heave associated with clay soils due to the presence of trees, TECHNOpor® can be used to replace the typical precast pre-stressed concrete floor beams and block infill.
- For low energy buildings including domestic houses and low rise commercial buildings TECHNOpor® can be used to provide insulated foundations thus avoiding the thermal bridging and heat loss associated with typical cavity insulated walls and insulated flooring via the internal masonry skin which forms a 'break' in the insulation. Moreover the floor construction is able to be included in the thermal mass of the building.
- TECHNOpor provides drainage and can be used in SUDS design.

## Economics

- TECHNOpor® provides overall economy when compared to other forms of floor construction.
- The use of TECHNOpor® can result in a reduction in the overall construction programme enabling a building to be occupied earlier and in the case of a commercial building result in an earlier generation of income.
- The benefits of the use of TECHNOpor® are recognised resulting in its increasing use notably some 150,000m<sup>3</sup> in 2013.

## Construction

- TECHNOpor® has a weight of a tenth of that of traditional building materials being only 170kg/m<sup>3</sup>. As such it is easier and quicker to handle and place requiring less labour and plant.
- Following the usually undertaken excavation and trimming to formation, a geotextile separating membrane is simply laid on the natural formation prior to placing and spreading TECHNOpor®. Compaction of TECHNOpor® is easily undertaken via a vibrating plate compactor i.e. 3 passes per layer.
- TECHNOpor® can be used in all weather conditions and is not affected by rain, snow or freezing conditions unlike typical granular sub-base materials which can become un-usable due to excessive moisture due to rainfall or frozen.
- There is no cutting to form the thermal insulation layer which eliminates offcut waste.
- Operatives are not exposed to dust particles which can arise when expanded polystyrene type materials are cut via saw which can result in irritation to eyes and require the use of respiratory protection to prevent entry into lungs.
- TECHNOpor® does not degrade and can be re-used.

## Environment

- TECHNOpor® is manufactured from 100% waste glass which would normally be deposited in land fill.
- Energy used in the manufacture of TECHNOpor® is provided by hydro-electricity.
- TECHNOpor® has low embodied carbon.
- The use of TECHNOpor® reduces the use of diminishing natural re-sources.
- The use of TECHNOpor® reduces pressures on the environment in man's pursuit of new sources of natural materials.
- Unlike expanded polystyrene or other insulation materials surplus TECHNOpor® does not need to be treated as a waste material and deposited in land fill. It can be used as general fill or beneath paving, footpaths etc. further reducing the pressure on land fill.
- TECHNOpor® is a sustainable material.