

TECHNOpor® PERIMETER 50

DESIGN DATA

1. **TECHNOpor® PERIMETER 50** is an aerated glass foam granulate manufactured from 100% recycled glass.
2. **TECHNOpor® PERIMETER 50** is lightweight having a loose bulk density typically 170 kg/m³.
3. Uses of **TECHNOpor® PERIMETER 50** include:-
 - Load bearing thermal insulation beneath floor slabs and providing a complete replacement for traditional hard-core, blinding, over site concrete and expanded polystyrene insulation construction or precast beam and block and polystyrene insulation flooring.
 - Load bearing thermal insulation beneath foundations
 - Light weight fill for embankments
4. **TECHNOpor® PERIMETER 50** is chemically inert and complies with requirements for Environmental Compatibility.
5. **TECHNOpor® PERIMETER 50** does not present any hazard to the Health and Safety of persons involved with its installation or use.
6. **TECHNOpor® PERIMETER 50** is non-combustible, frost resistant, self- draining and unattractive to vermin.

7. Design characteristics of **TECHNOpor® PERIMETER 50**

Nominal Value for compressive strength $f_{c,nom}$	Nominal value for compressive stress $f_{cd} = f_{c,nom} / \gamma_M \cdot \alpha$	Constrained modulus of the thermal insulation layer E_s
560 kPa	270 kPa	6000 kPa

See Technical data sheet for full details

8. Design thickness of **TECHNOpor® PERIMETER 50**:-

- Minimum compacted thickness 150mm.
- Maximum compacted layer thickness 300mm.
- For design thickness greater than 300mm, placing and compaction is to be undertaken in two or three layers.
- Maximum compacted thickness beneath floor slabs and foundations 900mm.
- Compaction ratio i.e. loose to compacted state 1.3:1.

U-Values achieved using **TECHNOpor® PERIMETER 50**

U – Values (W/m ² K)	Loose thickness (mm)	Compacted thickness (mm)
0.50	208	160
0.40	267	205
0.30	319	245
0.25	390	300
0.22	455	350
0.20	475	365
0.12	865	665
0.10	962	740

9. Design considerations/requirements:-

- For sub-soils that are not free draining i.e. cohesive (clay) soils, drainage is to be provided. See specific Project design drawings/details.
- If the natural standing ground water level is less than 300mm below the base of **TECHNOpor® PERIMETER 50** a capillary moisture barrier is to be provided.
- The formation level is to be trimmed and any loose material removed to provide a uniform surface and ensure a uniform thickness of **TECHNOpor® PERIMETER 50** throughout. Inspection/approval of formation as required.
- A non-woven geotextile 150gm/m² separation membrane is to be provided which is to be wrapped up the edges of the completed **TECHNOpor® PERIMETER 50** and lapped with the surface geotextile – see below
- A non-woven geotextile 150gm/m² separation membrane is to be provided to the compacted surface of **TECHNOpor® PERIMETER 50**.
- When using **TECHNOpor® PERIMETER 50** in conjunction with insulated foundations it is good practice to extend the **TECHNOpor® PERIMETER 50** beyond the face of the foundation to allow effective load dispersal and ensure the presence of properly compacted material beneath the foundation.
- Foundation bearing strata to be verified as normal.
- The maximum imposed stress applied to **TECHNOpor® PERIMETER 50** must not exceed the nominal value for compressive stress as provided in item 7 above.
- When assessing settlements of foundations, in addition to anticipated settlements of the foundation soil(s), deformation of **TECHNOpor® PERIMETER 50** should also be considered and assessed in accordance with the constrained modulus provided in item 7 above.