**IT'S SIMPLE**

**GEOCELL® INSTALLATION STEp BY STEp**

**preliminary note:** The use of GEOCELL® in the capillary fringe of groundwater or water source areas, is not recommended. Install drainage system/capillary moisture barrier if required.

**EXCAVATION**

Excavate immediately prior to the introduction of GEOCELL® to meet flatness and compressive strength in accordance with the object-related requirements. Excavate to formation level and trim/remove any loose material to provide a uniform flat surface.

**Lay sewage pipes in pipe trenches and fill with sand on subgrade level.**

**LAY GEOTEXTIL**

Install auxiliary formwork for GEOCELL® and install non-woven geotextile 150g/m² separation membrane which is to be wrapped up the edges of the completed GEOCELL® installation and overlapped with the surface geotextile.

**Position splice bars marking the compacted (final) height of GEOCELL®, at regular intervals.**

**INSTALL GEOCELL®**

Filling in the work area can be done by dumper or by wheelbarrow to simply, easily and quickly spread GEOCELL® to the required loose thickness by hand using rakes.

**LEVEL GEOCELL®**

For smaller sites, level GEOCELL® uniformly to the marked height using an excavator shovel and rakes. For larger construction sites a mechanical distribution is carried out before the head by a charger or a shovel. Driving over the uncompacted material should be avoided, as pre-compaction increases material consumption.

**COMPACATION OF GEOCELL®**

For small sites, compacting shall be performed by a lightweight vibrating shovel compactor (< 100 kg, frequency ~100Hz). Excessive compaction leads to increasing material consumption, but does not have a negative impact on the technical specifications. For design thickness greater than 300mm, placing and compaction is to be undertaken in two or three separate layers.

**POLYETHYLENE SEPARATION LAYER**

Wrap-up the edges of the geotextile to cover the GEOCELL® layer. Protect GEOCELL® with overlapping PE-foil.

**INSTALL FORMWORK FOR SLAB**

Install formwork for the foundations slab directly on the finished GEOCELL® surface and pour slab to meet static requirements.

A HIGH QUALITY RECYCLING GLASS PRODUCT

When the existing floor has been removed, excavate (if required) to the depth as calculated by Mike Wye & Associates, taking care not to undermine foundations. Accurately level and compact the surface; variations in levels can significantly increase material consumption.

**NOTE** - Please consult a specialist for high water table/ground water issues as additional drainage maybe required.

Once level, lay the geotextile membrane over the soil, overlapping joints. Ensure the geotextile laps up the walls far enough to fold back onto the GEOCELL foam glass.

Prior to filling the area with GEOCELL®, install marker posts to indicate the finished level after compaction. Allow a compaction ratio of 1.3:1 by measurement, e.g. Loose fill to 195mm and compact to 150mm. GEOCELL bags can then be emptied manually or with mechanical assistance within the floor area.

Rake the GEOCELL® level ensuring an even fill depth is achieved. Should the compacted fill depth exceed 300mm height, the installation must take place in multiple layers.

Once the loose GEOCELL® has been leveled, compaction can be undertaken with a light vibration plate with strong drive (~80 - 120kg, approx frequency 100Hz, centrifugal force <18kN). Alternatively a medium weight, non-propelled or self-propelled roller, running weight <7.5t, static line loads ~ 20kg/cm, approx frequency 65Hz.

Compaction is finished when the target level is reached, further compaction will increase material consumption. Remove posts and level off.

Fold back the excess geotextile around the edges over the compacted GEOCELL®, then lay the second layer of geotextile, again lapping up the wall to the depth of the screed.
If installing underfloor heating, the Geogrid is now laid over the second layer of geotextile. This is used as a fixing layer for pipe clip rails (not supplied), which are cable tied to the Geogrid. Heating pipes can be fixed directly to the Geogrid using cable ties, however this will position the pipes lower within the screed.

Cork insulation should now be positioned around the perimeter walls to the depth of the screed (typically 100mm). These are supplied in 1000mm x 500mm sheets and will need to be cut on site. The cork also acts as a screeding board, however additional shuttering maybe required for large floor areas.

Mix 2 parts screed aggregate to 1 part Mike Wye lime binder by volume, adding sufficient water to make a stiff but workable mix. If additional screed fibres are specified, add 1kg per cubic metre of screed. Mix for approximately 20 minutes after adding sufficient water. Lay and tamp the screed level, then float to appropriate finish.

The curing time is approximately 7-14 days depending on temperature, care should be taken to ensure the screed does not dry/cure too quickly or too slowly. In addition, if you have installed underfloor heating this should not be used for a minimum of 4 weeks. Always follow underfloor heating suppliers guidelines.

Coverings:
Ensure that the lime screed has dried out sufficiently to allow for finishes to be laid. For maximum breathability lay natural materials as finishes only. Lay all stone, slate or other slab finishes in lime mortar bedding and use only a lime:sand grout between slabs. Other floor finishes may be considered but may affect performance. Please consult with Mike Wye & Associates if unsure.