

Sustainable Porous Paving Solutions

By Peter Beavon

flexipave flexistone

flexipave



Sustainable Porous Paving Solutions

- KBI us was formed over 25 years ago, The product was created by Kevin Bagnall
- Kbiuk was formed 15 years ago and has the head offices based in Halifax and regional offices in Gosport (Hampshire).
- Kbiuk have 2 products which are Flexi Pave and Flexi Stone.
- We work in partnership with all government bodies and are the lead supplier in pours surfacing in the UK



What benefits does permeable surfacing have?



- Promotes drainage directly into natural aquifers.
- Reduces the reliance on storm water drains and assists in the planning and delivery of sustainable drainage systems.
 - Eliminates surface water, thus eliminating sheet ice.
 - Improves the health of any surrounding trees, grassland, shrubs, and flowers by allowing improved access to water and air.

flexi



- Hard surfacing material made from recycled car tyres, stone and a strong but flexible polyurethane binder.
- Permeable 24% void capacity
- Minimises standing water and ice therefore reducing risk and inconvenience.
- Flexible will 'flex' and bend to cope with tree root growth and ground movement without cracking, splitting or creating trip hazards.
- Can take occasional vehicle overrun and grounds maintenance vehicles without damage.
- Does not need any edging or kerbs this helps to reduce costs and minimises damage to tree roots.
- Hand laid process means minimal noisy machinery and therefore less disturbance to adjacent areas.
- Has a seven year guarantee.
- Totally SuDS compliant.



Carbon Savings

- Asphalt has a CO₂ equivalent of 93.5 kg CO₂/m³ (taken from highways England carbon tool)
- Concrete has a CO_2 equivalent of 247 kg CO_2/m^3 (taken from highways England carbon tool)
- Flexipave through recycling of tyres saves a CO₂ equivalent of 1741 kg CO₂/m³ of flexipave (taken from KBI Carbon Footprint Document) by preventing the tyres being used as Tyre-derived fuel.
 - Aggregate used in Flexipave has a CO₂ equivalent of 4 kg CO₂/m³ of flexipave. (taken from highways England carbon tool)
 - Polyurethane binder has a CO₂ equivalent of 487 kg CO₂/m³ of flexipave. (taken from the Inventory of carbon and energy)

When flexipave is used instead of asphalt the CO₂ saving = 1741+93.5-4-487= <u>1343 kg CO₂/m³</u>

When flexipave is used instead of concrete the CO₂ saving = 1741+247-4-487 = 1497 kg CO₂/m³



- Hard surfacing material made from stone, mixed with strong but flexible polyurethane binder.
- Highly Porous minimises standing water and ice therefore reducing risk and inconvenience.
- Flexible material will cope with some ground movement associated with tree root growth and minor settlement without cracking, delaminating or causing tripping hazards.
- Can take regular vehicle overrun, grounds maintenance vehicles or be used for controlled vehicle access situations or car parking, without damage.
- Does not need any edging or kerbs this helps to reduce costs and minimises damage to tree roots.
- Hand laid process means minimal noisy machinery and therefore less disturbance to adjacent areas.
- Totally Suds compliant

flexipa





flexipave



Chemical Testing And Longevity reports

Leachate Test **Slip Resistance Test Fire Resistance Test** Load Bearing Test Freeze / Thaw Test **Density & Air Void Test Deformation Test Hydraulic Conductivity Test Shock Absorbency Test** Water Purification Test **Permeability Test**







Product Applications

- *** CYCLE PATHS**
- **BRIDLEWAYS**
- **TREE PITS**
- **FOOTPATHS**
- *** DRAINAGE SYSTEMS**
- ***** CEMETERIES
- * TOW PATH
- **BRAINAGE SOLUTION**
- **OVER LAY EXISTING PATH WAY**





flexipave HD1000 – Countesthorpe College



flexipave HD1500 – Trans Pennine Trail



flexipave HD2000 – Tree surrounds, Whitehall, London



Projects and Site Locations













































Flexi-Fix Product

K B











Sustainable Porous Paving Solutions

www.kbiuk.co.uk