Case study

RonaDeck Resin Bound Surfacing – a pathway to innovation

Specialist construction product manufacturer and market leader Ronacrete has showcased its sustainable, permeable paving system, RonaDeck Resin Bound Surfacing and an alternative base from the EcoBound range at the BRE Innovation Park in Watford.

The BRE Innovation Park promotes a sustainable and low carbon built environment by housing some of the world's most sustainable buildings and providing a testing ground for new products and construction systems.

> *"Ronacrete has a long standing relationship with the BRE. Many tests on our materials from our Screeds, Concrete Repair and Waterproofing ranges have been conducted over the years at their premises in Watford. It made complete sense to take the opportunity to showcase RonaDeck Resin Bound Surfacing, a product which Ronacrete prides for its sustainable features as well as its quality in terms of strength and appearance."*

Daniel Osen, Managing Director, Ronacrete

After a meeting with Nick Smith, Global Development Director for BRE, it was agreed to replace the existing path (a basic mix of type one and sand) with a visually striking resin bound pathway using a selection of aggregate blends from the range - Autumn Harvest, Lunar, Terracotta Snow, Maple Harvest and Quartz Parallel.

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Case study

The resin bound surfacing was seen as innovative and environmentally friendly due to the following features:

- Unique resin with 38% formulated from botanic sources
- Can be installed on to alternative bases such as EcoGrid which is made from 100% recycled plastic – part of the EcoBound range
- High quality UV stable formula which ensures long product life cycle
- Highly permeable – up to 850 litres / m² / minute
- Recycled aggregates can be used
- Low VOC cleaners for aftercare
- Slip resistant in wet and dry
- Highly decorative natural aggregate appearance
- Guaranteed up to 15 years

The installation at the BRE was consisted of 20mm RonaDeck Resin Bound Surfacing on to EcoGrid (ground stabalisation system made from 100% recycled plastic) which was then filled with recycled aggregates. This provided a fully permeable SuDS compliant surfacing system.

One of Ronacrete's Approved Contractor PJJ Contractors removed the original pathway to a 60mm depth and sand from the original path was used to level the surface. A geotextile membrane was then rolled out to prevent weed growth. The 40mm EcoGrid was laid on top of the membrane and fitted together using its patented interlocking design and filled with 6mm limestone aggregate and then compacted using a wacker plate.

Next, an eight section design was marked out and each section was separated with a 20mm flexible steel trim which was fixed to the recycled plastic EcoGrid (some aggregate shades were used twice).

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Maple Harvest was laid to two sections; the first at the end of the path and the second at the entrance to an outdoor gym area. Autumn Harvest was then laid in the path centre joining up with the Maple Harvest section. Directly outside the Wilmott Dixon Healthcare Centre, Terracotta Snow was installed and was used to complete the gym path.

An existing cracked resin bound surface was removed from the timber decked ramp that lead to the path and a straight edge steel trim was installed on each side of the ramp. The Lunar aggregate blend was used to complete the path connecting with the base of the ramp and Quartz Parallel was installed on the ramp at a thickness of 20mm.

Ronacrete also agreed to replace the surfacing of the outdoor gym area which consisted of bark and a very hard type one aggregate with a UV stable rubber granule surfacing system.

A depth of 120mm was excavated using a digger and once levelled, a geotextile membrane was rolled out. A 100mm shockpad was then installed on to the membrane. The shockpad is a combination of black rubber granules made from recycled truck tyre carcases mixed with resin and then raked out on to the surface and left to cure over night. Yellow, blue, green and red rubber granules were then used as a wearing surface to provide decoration. All these colours are often vulnerable to UV degradation and discolouration. The pigmented rubber granules were mixed with a UV stable resin, poured on to the surface, levelled to 20mm and finished with a trowel leaving a smooth, bright and decorative surface which provides safety surfacing for outdoor play areas, swimming pool surrounds etc. whilst retaining their colour.

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The partners who showcase their products at BRE want to reduce carbon emissions and their effect on the environment while improving building quality and the lives of people who use them. Every year, VIP delegates, house builders, architects and major energy suppliers come, in their thousands, to be educated about how new methods in sustainable design and construction are improving the built environment, this now includes the path they stand on.

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