Glass Concrete Paving Stones

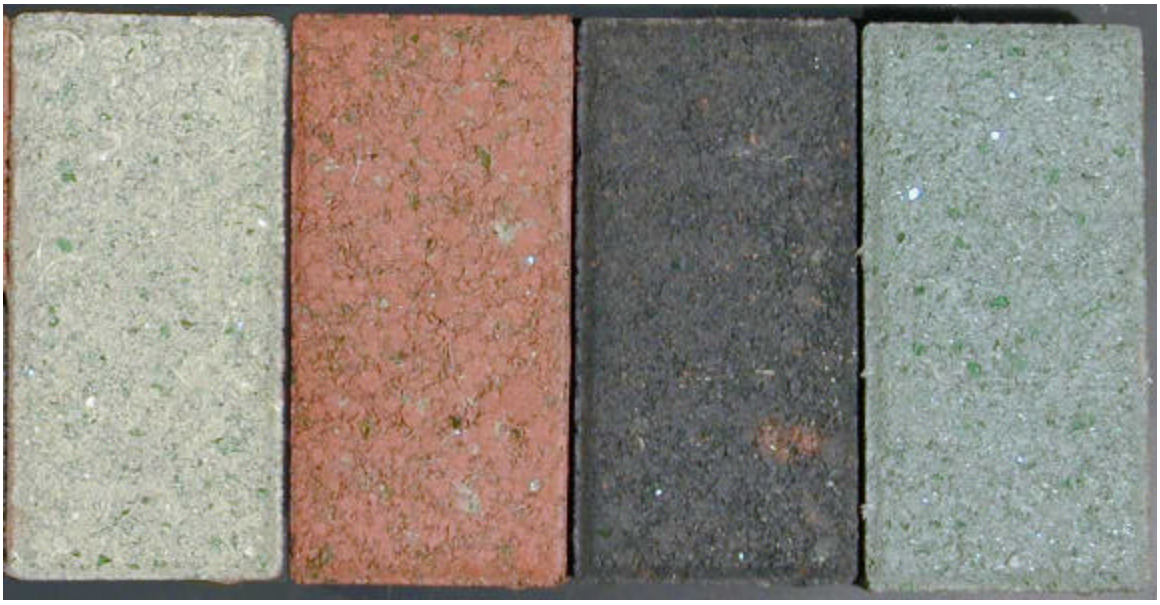
Concrete paving stones are ubiquitous in sidewalks, parking lots, pedestrian malls, parks, etc. They are typically produced in highly automated high-volume facilities and therefore constitute cost-effective alternatives to other paving materials. With the addition of color pigments their color can be customized and esthetically pleasing.

Columbia University has been cooperating with Grinnell Pavingstones of Sparta, NJ, to develop a paving stone made of glass concrete. The main objectives of this development were,

- to use the glass to achieve novel color and surface texture effects;
- to recycle the glass, thereby reducing the solid waste disposal problem of local communities;
- to utilize the reflective properties of the glass for novel effects;
- to add fiber reinforcement to increase the paver's energy absorption capacity and to minimize crack widths;
- all other technical specifications for paving stones, such as strength, water absorption, freeze-thaw cycle resistance, can be readily satisfied.

Grinnell is also manufacturing concrete blocks for a patented retaining wall system. The units are mechanically split, with the split surfaces to be exposed. It is being contemplated to manufacture these wall block units with glass concrete.

The development efforts are continuing. The first full-scale pilot project is expected to be completed shortly: to repave the private driveway of Prof. Meyer in Demarest, NJ.



Research Sponsors

- New York State Department of Economic Development
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