

Product Review from **Environmental Building News**
August 1, 2010

Earthstone's Affordable, Recycled Granite Pavers

The North Carolina company Earthstone Products has introduced an attractive, relatively inexpensive paver that's manufactured entirely from pre-consumer recycled granite. These pavers, as well as finished floor tiles, offer products for both outdoors and indoors.

According to John Tesh, the sales and marketing director at Earthstone, many companies throw away up to 25% of a slab of granite used in making countertops. Earthstone uses these scraps to make its products. "We came up with a patented process that turns that waste into pavers and interior flooring," Tesh told *EBN*. "For lack of a better description, it's a 50-ton granite 'cookie cutter,'" he said. All of the material the company collects is turned into product and kept out of landfills. Recently, the North Carolina Department of Environment and Natural Resources certified the company as a "granite recycling center."

After stamping to produce the desired shape, pavers for outdoor use are tumbled to soften the edges and provide a weathered look; they are installed with the milled (smooth) side down. For indoor use as floor tiles, the pieces are not tumbled and are installed with the finished side up. The tiles are 11/4" (30 mm) thick, with thickness variations typically around 1/32" and never more than 1/8", according to Tesh. Smaller pieces are turned into backsplash tiles, fireplace surrounds, and other products. The leftover chips are ground into aggregate for roadbed construction and similar applications (including, potentially, aggregate under pavers).

The idea for Earthstone Products, according to Tesh, came from a granite fabricator who was concerned about the amount of waste being generated. Earthstone currently collects discards from 18 regional fabricators for processing. The varying sources of material result in random color patterns, though some color matching can be achieved. Different shapes are also available, including interlocking 14-inch-long pavers stamped in the shape of North Carolina.



Earthstone granite pavers provide a mix of colors and patterns.



Earthstone pavers and interior floor tiles are 100% post-industrial recycled waste.

The product ships from Greensboro, North Carolina, where it is produced. The company can ship it anywhere, but has about 20 distributors who stock it, mostly in North Carolina and Virginia. (Shipping a heavy product, such as granite, a long way usually doesn't make sense economically or environmentally.) Earthstone is gradually expanding its presence, and the pavers are now being specified for schools, hospitals, state projects, and a wide range of residential projects. Earthstone pavers and tiles have recently been specified in several LEED projects, including a library and a school, according to Tesh.

In addition to impervious applications (most common), the pavers can be used in porous paving applications, as long as a properly engineered base is provided. Such a base is required with any such system, and typically involves a deep, crushed-stone base that

provides water-storage capacity beneath the pavement. When the pavers are used in this way, the space between them is filled with a coarse crushed-granite sand or gravel.

Stone mason Peter Zook, of L&P Construction in Greensboro, North Carolina, has used the outdoor pavers on 20 or 30 projects and was just completing an installation when *EBN* reached him. "I like it a lot," he said. He appreciates the weathered look and the color variation. "When it gets wet, it brings out a multitude of colors." He has used a wide range of patterns, sizes, and colors.

Zook said installation is just the same as with other pavers, except that it's thinner. He usually dry-lays the product but says that mortar can be used. He digs down to the sub-base, installs a layer of geofabric, and lays down a 6" (150 mm) base of "modified" (compactable crushed stone) with one inch (25 mm) of sand above that. Between the pavers, Zook uses a "poly sand," which has a polymer in it that expands when wet. With mortared applications, such as on steps, it goes down "just like brick," he said. A diamond saw is required for cutting the pavers.

While Zook hasn't done indoor flooring installations, a colleague of his has completed a large installation and said the pavers install just like standard floor tile, although they are thicker. The thickness differences compared with conventional exterior pavers and interior floor tiles has to be accounted for, but that hasn't been a problem.

Earthstone outdoor pavers retail for about \$6/ft² (\$65/m²), not including installation, says Tesh—roughly the same as high-end concrete pavers. For interior floor tiles, extra care is required in manufacturing to ensure a clean cut and maintain the polished surface of the original countertop material; these tiles retail for \$7/ft² (\$75/m²).

– Alex Wilson

For more information:

Earthstone Products
Greensboro, North Carolina
336-314-2222
www.earthstoneproducts.net

IMAGE CREDITS:

1. Photo: Earthstone Products
2. Photo: Earthstone Products

Copyright 2010, BuildingGreen, LLC