

## Paving stones used in campus remodeling

A 20-year remodeling plan underway at Purdue University has brought impressive cosmetic changes to the college's Purdue Mall. Pedestrian traffic has been made easier and safer by removing a mid-mall parking area and diverting motor traffic to a perimeter parking garage. The scissors effect of intersecting avenues at cross purposes, which use to impede pedestrian progress has been entirely eliminated.

### Paving stones underfoot

To create a colorful and workable design, landscape architects Rundell Ernstberger and Associates of Muncie, Ind., used colored concrete paving stones, arranged in checkerboard patterns. The polychromatic pavers were custom-colored by Interpave Corp. of Cincinnati. Interpave used six varieties of Bayferrox synthetic iron oxide pigments from Mobay Corporation of Pittsburgh, a Bayer USA company.

"The pavers tie together the diverse elements of the mall," says Eric Ernstberger, a partner in the architectural firm.

"The checkerboard pattern," explains Ernstberger, "was selected to provide a complementary neutral field among the very busy pattern of radial walks and concentric walls."

### Colors well-chosen

The color palette of the paving stones, says Karen Fennerty, landscape project manager for the university, is based upon Purdue's black and gold colors, to which were added pigments of beige, blue-grey and two shades of red.

All six colors are blended together in the pavers. Dominant color tones of charcoal and red, which create the checkerboard effect, are achieved by increasing the ratio of these primary pigments within the integral blend.

The six-color matrix of the pavers creates its own visual experience. As light lingers over the mall, it elicits overtones of one or another of the six integrated colors.

"There is a subtle shifting of rich color tones in color cadence with the overhead movement of the sun," says Fennerty.

### Pavers remove easily

Thomas Schmenk, director of facilities planning for Purdue, says the pavers can be removed and replaced if necessary.



The stones used to pave Purdue Mall have a minimum compressive strength of 8,000 psi (photo courtesy of Mobay Corporation of Pittsburgh).

"The pavers can be removed by hand to make underground repairs," explains Schmenk, "and then replaced, without leaving the tell-tale patchmarks that disfigure asphalt or poured concrete surfaces."

According to Kevin Piers, vice president of Interpave, "when the pavers are properly set in sand, they allow for movement due to freeze-thaw cycles without cracking or breakage."

### Important first steps

The paver installation starts with an 8-inch gravel base, placed, graded and compacted over a filter fabric. Coarse bedding sand is placed over the prepared base, to a depth of one inch and then screened to produce a finished, even surface. The pavers are fitted together by hand in a pre-planned pattern, and all the cutting to fit the shapes of the paved areas is done on site.

A plate vibrator is used to firmly seat the stones for initial interlock. Then, sand is spread over the surface and the entire area is vibrated again, filling in the joints between the pavers and locking them in place.

The pavers measure eight and six inches square, with a 1/8-inch bevel. The cost of installing the pavers over a prepared base was \$4.50 per square foot.

Particular care was taken in fitting the pavers to the curves and circles in the fountain promenade area.

"In circumferential designs, the pattern is carefully calibrated so that the bond comes back together when an arc or circle is completed," says Russell Wilson, field superintendent of the LPS Pavement Company of West Chicago, Ill. According to Wilson, cutting the pavers in the radii of circles required much precision, which was acquired by using diamond blades to insure a tight fit. **LM**