

2019 You Show Us Innovation Contest Glass Grid Dispenser



Arapahoe County Road and Bridge

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PROBLEM STATEMENT

Wide cracks in asphalt pavement are an ever-increasing problem that agencies across the Denver Metro area are struggling to find efficient repair methods. Arapahoe County also needed to develop a sustainable process to efficiently deal with the ever-increasing back log of wide cracks. These cracks range between 1 to 4 inches in width and some up to 8" in depth. Over the past few years, Arapahoe County discovered that their most effective method for repairing wide cracks involves milling a 24" wide pass 3 inches deep directly over the crack and patching back with new asphalt. The initial patches looked great but within a year or two the asphalt would begin to crack again. To solve that problem a glass grid material is now added into the layer of asphalt providing the needed extra strength. Transporting, unrolling, and Carrying the glass grid became a chore because the rolls are heavy, and it is a sticky material making it hard to unroll. A glass grid dispenser was needed to make the process faster and easier.

DISCUSSION OF SOLUTION

Road and Bridge staff came up with a very innovative and creative solution to store, transport, and dispense the glass grid material. The idea was to construct a metal rack similar to a paper towel holder that would allow the glass grid roll to be changed out quickly. The rack also needed to be strong enough to pull against when the material was unrolled. This rack was installed on the back of the asphalt patch trucks making it the most convenient spot to have the glass grid available.

LABOR, EQUIPMENT, AND MATERIALS USED

Arapahoe County decided the best way to tackle the build process was enlist the help of a private weld shop. The patching crew had a rough pencil sketch and knew what they wanted the dispenser to look like and the shop mechanic was able to create a prototype out of a couple pieces of flat steel and a piece of pipe. It is a very simple design that doesn't let the pipe slide back and forth. The design is able to be reproduced and has been added to all of the patch trucks as it is super simple to bolt on to the rear spoils bin.

TOTAL COST

The total cost to have each glass grid dispenser built and installed is **\$650**.

SAVINGS AND BENEFITS TO AGENCY

The glass grid dispenser has improved efficiencies by having material readily available at the back of the patch truck that is no longer a hassle to dispense. Before the dispenser, it took two crew members to unroll the glass grid, one to hold the roll and another to pull it off the roll. Storing and transporting is no longer an issue with this dispenser. Employee labor is our biggest expense and the \$650 initial cost was recouped in a matter of months. The best part of the dispenser is that our employees will actually use the glass grid rather than making excuses about how hard it is to unroll.

