

Home Pavement Maintenance Gilsonite-based Sealer Can Extend Pavement Life

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Tests show Gilsonite-based sealer extends pavement life

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The Central Church of Christ in Cedar Rapids, IA, applied a GSB sealcoating product to its newly paved parking lot in 1978. The organization has followed the initial application with treatments of the same product every five years.

What do Oregon's Portland International Airport and Mulino State Airport, Utah's Blanding Municipal Airport, Central Colorado Regional Airport, and Central Church of Christ, Cedar Rapids, IA, have in common?

They are all examples of long-term monitoring of pavement sealcoating using a Gilsonite-based material, GSB, produced by Asphalt Systems Inc. (ASI), Salt Lake

City, UT. ASA says Gilsonite is a naturally occurring resinous asphalt ore found in Utah that does not have to undergo an oil refining process. GSB products comprise a mixture of Gilsonite, specially selected plasticizers and oils that penetrate and reintroduce essential binders into the pavement matrix. They are designed to mitigate the impacts of surface oxidation and moisture damage on asphalt pavements, halting deterioration and sealing the surface to help repel water. The product also helps prevent surface raveling.

39 Years of Testing

ASI reports that more than 39 years of monitoring GSB-treated asphalt pavement indicates the sealer can extend the useful pavement life 25% to 50% with a single application. ASI says multiple applications show even better life extension.

“One of the keys to success with our GSB products is an initial application when pavement is in new, or near new condition, and then subsequent applications at the recommended intervals,” says Brad Grose, ASI vice president of sales and marketing. “If these recommendations are followed, GSB products can essentially freeze – or suspend – a pavement’s condition over time, keeping it at that quality indefinitely.”

ASI says that data also shows preservation benefits are increased by applying its GSB-88 to pavements while they are in “Good” or even “Satisfactory” condition to correct various asphalt binder issues.

Independent Evaluation and Airfield Applications

Field trials and official studies also support ASI’s asphalt life extension claims.

During the 1990s, an ASI GSB sealer was evaluated through two independent field trials in Oregon – Portland International Airport and Mulino State Airport. In both cases, the sealer was applied as a part of a preventive maintenance program, and its long-term performance was monitored. The performance data of Portland’s Taxiway C showed that the GSB product was able to maintain the taxiway pavement at an “excellent” level for the trial period of eight years. Performance data of the Mulino runway trial showed that the GSB sealer kept the runway at

excellent conditions for 10 years by interrupting its aging process, including halting the progress of raveling and weathering.

Department of Defense Research Results

Navy Facilities Command (NAVFAC) pavement specialists have performed a long-term evaluation of 1.2 million square yards of GSB applications on widely varying military airfield pavements and climates. In addition, the MicroPAVER data for 883 treated municipal airfield pavements across multiple climatic zones was critically evaluated.

In both cases, the results of the evaluation were positive and demonstrated significant life extension for treated pavements. The result is that GSB-88 is compliant with a number of specifications including DOD UFGS 32 01 13.63 and FAA AC 150/5370-10G, P-608. It can be applied to all airfield pavements, including critical runways. Engineered as an effective pavement preservation material, GSB-88 can also be extremely effective at rebinding raveling pavements, which on critical airfields, can mitigate asphalt based Foreign Object Debris (FOD).

Information for this article was provided by Asphalt Systems Inc., Salt Lake City, UT.