

NAVFAC Evaluation of GSB-88 Sealer/Binder Pavement Preservation for Corrosion Control and Sustainment of Military Pavement Infrastructure

by Greg Cline, NAVFAC ESC

Greater than 75% of asphalt pavement distresses on DOD airfields are due to environmental causes (weathering); the leading cause of increased maintenance costs and foreign object debris (FOD). With aggressive early asphalt preventative maintenance these costs could be significantly reduced and pavement readiness increased. The DOD has been given the responsibility to comply with GAO-03-753 report on corrosion control and seek out successful cost saving technology that will preserve DOD assets and increase the readiness of critical facilities.

NAVFAC is currently evaluating asphalt preventive maintenance materials. One material which is showing better than expected results is GSB-88 Sealer/Binder. GSB-88 has been applied to approximately two hundred FAA commercial airfields. Review of the MicroPAVER data from these airfields indicates application of GSB-88 significantly reduced the rate of pavement deterioration. In some cases, the useable life of the treated airfield pavement doubled. The greatest benefits of GSB-88 applications are to newer pavements. Pavements with a Pavement Condition Index (PCI) greater than 60 showed significantly greater life extension than pavements with a PCI of less than 60; however, GSB-88 can be very beneficial in holding a poor pavement together long enough to engineer and fund a more permanent solution. In addition to minimizing FOD on airfield pavements GSB-88 applications may also benefit outlying or remote airfields in preserving older pavements from further binder deterioration. Presently, surface treatments are not allowed on DOD Runway/Taxiway pavements because of issues such as low friction values; however, current evaluations indicate the friction values for GSB-88 applications to be more than acceptable; above acceptable minimums within 24 to 48 hours.

GSB-88 has a relatively low cost of approximately \$1 sq/yd (applied) which could result in a savings of hundreds of millions of dollars annually for DOD. NAVFAC is currently conducting site visits and evaluations on DOD airfield pavements where GSB-88 was applied for validating and approving the use of this product on military pavements. Preliminary data indicates similar benefits and results as experienced by the FAA. This study will be completed in FY10 and if GSB-88 continues to prove to be a valid product for military use, it will be included in the appropriate guide specifications for airfield pavement maintenance; a Draft of which is anticipated to be completed by December 2009.

For more information contact Greg Cline, Project Manager, NAVFAC Engineering Service Center, at gregory.d.cline@navy.mil.

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