

Reclaimed Stabilized Base (RSB)-Stabilizing Agent Selection & Design

PROJECT TITLE

Reclaimed Stabilized Base-Stabilizing Agent Selection & Design

STUDY TIMELINE

07/01/2019 – 06/30/2021

INVESTIGATORS

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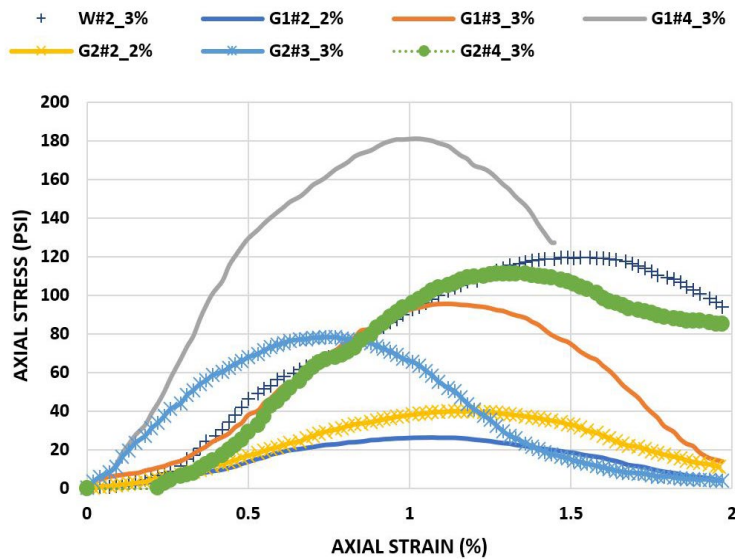
VTRANS CONTACTS

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More information about the VTrans Research Program, including additional Fact Sheets, can be found at:
<http://vtrans.vermont.gov/planning/research>

Problem Statement

The objective of this project is to determine the suitability of the various stabilizing agents for common subbase materials encountered in Vermont roadways and develop a process for VTrans to determine the applicability of RSB for a project, and the appropriate types and percentages of stabilizing agents.



Variation of axial stress vs. axial strain for soil-cement stabilized specimens

Methodology

Specimen preparation, curing and testing for different mix designs with cement, asphalt emulsion, and liquid calcium chloride as stabilizing agents is in progress. In addition, Finite Element Analysis (FEA) of RSB pavement structures with a wider range of mix designs is in progress.

Next Steps

Laboratory tests indicated an increase in the compressive strength of cement-stabilized subbase material. The next steps include exploring the effect of asphalt emulsion and liquid calcium chloride on the strength and modulus of the base and subbase layers. Preparing and testing additional stabilized specimens is ongoing. The results of these tests will be supplemented by FEA of pavement structure.

Potential Impacts and VTrans Benefits

The results of this project will provide the VTrans with guidelines for the scoping phase of the projects to determine applicability and/or benefits of RSB for the project as well as the mix-design recommendations to determine the optimum percentage of the stabilizing agents.