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## Evaluation of “long-term behaviour under traffic” of cement treated mixture with RAP

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### H I G H L I G H T S

- CTB containing RAP and CTB virgin aggregates resist similarly to cyclic loadings.
- CTB-RAP shows a slightly lower mechanical strength than CTB-Virgin.
- CTB-Virgin shows a much more rigid behaviour than CTB-RAP.
- The CTB-Virgin shows a faster damage growth than the CTB-RAP.
- The use of RAP in CTB mixtures does not modify mechanical performance of the mix.

### A R T I C L E I N F O

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 Shear modulus  
 Damping  
 Friction angle  
 Cohesiveness

### A B S T R A C T

A laboratory investigation was performed to better understand the performance of Cement-Treated Base (CTB) mixtures containing Recycled Asphalt Pavement (RAP) during a long-lasting service period. Two CTB mixtures, one containing only virgin aggregates and the other containing RAP and virgin aggregates, were tested by triaxial tests (static and cyclic) and resonant column tests to evaluate stiffness and dampening at very small deformations. Similar mechanical properties and response to cyclic loadings were obtained for the two mixtures. The results led to the conclusion that the use of RAP as a replacement for virgin aggregates for a CTB mixture does not cause any significant alteration in terms of mechanical performance.

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