

## Design of a Laboratory Test for Investigating Permanent Deformation of Asphalt

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**Abstract :** Many concerns have been raised in recent years about the adequacy of existing creep test methods for evaluating rut-resistance of asphalt mixes. Many researchers believe the main reason for the creep tests being unable to duplicate field results is related to a lack of a realistic confinement for laboratory specimens. In-situ asphalt under axle loads is surrounded by a mass of asphalt, which provides stress-strain generated confinement. However, most existing creep tests are largely unconfined in their nature. It has been hypothesised that by providing a degree of confinement, representative of field conditions, in a creep test, it could be possible to establish a better correlation between the field and laboratory. In this study, a new methodology is explored where confinement for asphalt specimens is provided. The proposed methodology is founded on the current Australian test method, adapted to provide simulated field conditions through the provision of sample confinement.

**Keywords :** asphalt mixture, creep test, confinements, permanent deformation

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