# PROJECT PROFILE

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| **Title** | **The appropriateness of the SATS test for inclusion in the NRA Specification for Road Works** |
| **Contractor** | TRL Limited |
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| **Start date** | Sep-09 |
| **End date** | Aug-10 |
| **Status** | On-going |
| **Type of project** | Research Project |
| **Project reference** | NR/250/04 RP015 |

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| **Description** | The presence of moisture in an asphalt mix can result in loss of strength, stiffness and durability due to loss of adhesion at the aggregate-binder interface and cohesion failure within the binder matrix. The Saturation Ageing Tensile Stiffness test (SATS) has been used in Europe for several years as a method for evaluating the long-term water sensitivity of aggregate/filler/bitumen mixes. The test has been incorporated by the UK Highways Agency into their latest Series 900 Specification for Road Works (Manual of Contract Documents for Highway Works, Volume I, Clause 953) which was published in 2008. The NRA has resisted the inclusion of this test in its own standards as there is a general lack of data on the applicability or otherwise of the test to Irish conditions.<br>  <br>Equipment used for SATS testing<br>With the move to performance based standards on bituminous road pavement materials it is important to implement a performance indicator relating to the durability of roads and to continually assess new test methods. However it is also crucial that specifying/standards bodies have the best information available before making any decisions relating to inclusions or omissions of tests from national standards. This study is being to examine the appropriateness of the SATS test genererall and to Irish conditions in particular before any decision is taken on the adoption or otherwise of this test. |
| **Objectives** | The objective of the project is to examine the SATS test and assess its suitability as a test for measuring the durability of bituminous pavement mixes with Irish aggregates. As water sensitivity is a recognised factor in the durability of bituminous pavement mixtures it is crucial to establish if the SATS test has a role to play in identifying poor aggregate/ filler/ bitumen combinations.<br>The project includes a review of the current application of the SATS test in the UK and elsewhere to determine sensitivity to different aggregates and binders. Thereafter a comprehensive programme of testing will be undertaken to validate the use of the SATS test for Irish aggregates. The project is intended to allow the NRA to evaluate the SATS test and make an informed decision on the justification for inclusion or not in national standards. |
| **Benefits** | This research will allow the NRA to validate the SATS test and make an informed decision on the justification for inclusion or not in national standards. As water sensitivity is a recognised factor in the durability of bituminous pavement mixes it is critical to establish if the SATS test has a role to play in identifying poor aggregate/bitumen combinations. |
| **Outputs** | Project output will determine appropriateness of SATS for use in road construction and more specifically its specification in the NRA SRW with informed pass/fail criteria.B16 |