

The Office of Technology Management

UNIVERSITY OF TEXAS  ARLINGTON

Tech ID: UTA 07-38

Method and Apparatus to Perform Profile Measurements on Wet Concrete and Report Discrepancies

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TECHNOLOGY NEED

Globally, concrete pavement construction has become increasingly popular in road construction due to its ability to support high vehicular load and high resistance to wear and tear compared to asphalt. This has brought about a high demand for its quality control. Amongst which is to check for texture of concrete surfaces which can affect load impact and in turn the service life of the pavement. When concrete is set, it cannot be reshaped, so current technology uses grinding technology to cut or smoothen the surface as desired. This method has proven to be very expensive, time consuming and labor intensive. Therefore, there is a need for a technology that can evaluate and correct road pavement when the concrete is still wet.

INVENTION DESCRIPTION/SOLUTION

UTA researchers have developed a technology to measure the profile of wet concrete and report discrepancies. This involves the detection of bump during pavement construction before the concrete hardens. It can withstand the paving environment which includes, vibration, jerking, water and chemical spray. It functions to check surface smoothness early in the construction leading to more cost-effective alternatives or correcting deficiencies which is the major objective of roadway construction projects.

APPLICATIONS

- Road/pavement construction
- Landscaping
- Runway construction
- Warehouse construction

KEY BENEFITS

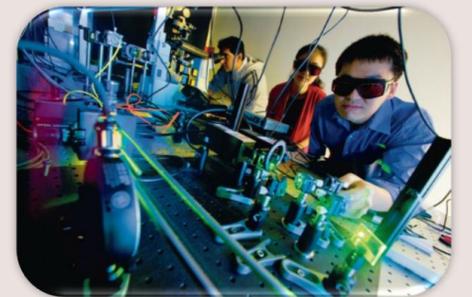
- Lower road construction costs.
- Does not require specialized skill to operate.
- Suitable for large-pour and cast-in-place applications.
- No need for special vibration equipment, special heat and pressure curing process.
- Feasible in situ concrete placement.

STAGE OF DEVELOPMENT

Prototyped and tested.

INTELLECTUAL PROPERTY STATUS

Patent granted



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