

## **AUSTROADS TEST METHOD AG:AM/T002**

# **VALIDATION OF AN INERTIAL LASER PROFILOMETER FOR MEASURING PAVEMENT ROUGHNESS (REFERENCE DEVICE METHOD)**

## **COMMENTARY**

### **1 SCOPE**

Additional guidance and background information can be found in the *Austrroads Guide to Asset Management – Part 5B: Roughness* (Austrroads 2006).

### **2 REFERENCED DOCUMENTS**

No comment.

### **3 DEFINITIONS**

No comment.

### **4 EQUIPMENT**

No comment.

### **5 PROCEDURE**

#### **5.1 Validation of distance measurement**

No comment.

#### **5.2 Validation of roughness measurement**

- (a) The characteristics of the validation sites have been selected to ensure a reasonable spread of roughness condition, over which the performance of the profilometer can be assessed. The validation limits listed in 7.2 cannot be used if the selected validation sites do not match the characteristics listed. The  $r^2$  statistic is heavily dependent upon the range of data over which it is determined.
- (b) The test method assesses the performance of the laser profilometer when compared to this reference data. It is vital, therefore, that the reference data be accurate.

- (c) As the operating speeds of profilometers are equipment specific, the test speeds have not been specified in terms of km/h but rather as representing the operating range of the equipment.
- (d) No comment.
- (e) Test Method AG:AM/T004 assesses the ongoing repeatability and bias error of measurement of the profilometer.

## **6 CALCULATIONS**

No comment.

## **7 REPORTING**

### **7.1 Validation of distance measurement**

No comment.

### **7.2 Validation of roughness measurement**

The validation limits in 7.2(g) cannot be used if the selected validation sites do not match the characteristics listed in 5.2(a).

## **8 FAILED VALIDATION**

No comment.

## **ANNEX 1 – EXAMPLE OF VALIDATION CHECKS**

No comment.

## **REFERENCES**

Austrroads 2006, *Guide to asset management – Part 5B: roughness*. AGAM05B/06, Austrroads, Sydney.

## AMENDMENT RECORD

Amendment No.	Sections amended	Action <sup>1</sup>	Date
1 (Initial release)	All (Michael Moffatt, ARRB)	New	26 March 2007
<sup>1</sup> Key: Format            change in format Substitution      old section removed and replaced with new section New                insertion of new section Removed          old section removed			

This commentary is relevant to the 26 March 2007 release of Austroads Test Method AG:AM/T002.