

## **AUSTROADS TEST METHOD AG:AM/T009**

# **PAVEMENT RUTTING MEASUREMENT WITH A MULTI-LASER PROFILOMETER**

## **COMMENTARY**

### **1 SCOPE**

It is important to note that the test method has been prepared for the testing of pavements at the network level. Care should be taken when applying the test method at the project level.

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

### **2 REFERENCED DOCUMENTS**

No comment.

### **3 DEFINITIONS**

- (a) No comment.
- (b) No comment.
- (c) No comment.
- (d) No comment.
- (e) This test method requires that wheelpath rut depths be measured. Measurement of lane rut depth is optional.
- (f) No comment.
- (g) No comment.
- (h) No comment.

### **4 EQUIPMENT**

- (i) Section 6.5 of the test method recommends that a minimum of 11 lasers be used. The section also includes a preferred transverse configuration of the lasers.
- (j) No comment.

(k) No comment.

## **5 CALIBRATION AND VALIDATION**

### **5.1 Equipment calibration**

#### **5.1.1 *Distance transducer***

No comment.

#### **5.1.2 *Laser displacement transducers***

No comment.

### **5.2 System validation**

Whilst equipment calibration and validation issues are of direct relevance to the survey crew operating the vehicle in the field, it has been presumed that the crew may not be as familiar with contract documentation, including the specification, as they are with the data collection test method. Accordingly, a default list of calibration and validation requirements that must be met in the absence of any form of instruction of specification is included in the test method.

The validation test method AG:AM/T010 contains a procedure that compares the rutting results obtained from the test profilometer system to the results obtained from an independent reference device. The alternative test method, AG:AM/T011, compares the results obtained from the test profilometer to the results obtained from another reference profilometer system.

The test method permits the use of either validation method for the validation of profilometers. If a client wishes to specifically exclude the use of one of the methods, then this should be specified in associated contract documentation.

## **6 PROCEDURE**

### **6.1 Pre-test setup**

No comment.

### **6.2 Operational validation procedure ('straight edge test')**

The operation validation procedure, commonly known as the 'straight edge test', is quick and easy to undertake, and provides a ready means of ensuring that the profilometer equipment is behaving in the expected manner.

### **6.3 Rutting survey**

No comment.

### **6.4 Factors affecting the test**

No comment.

## 6.5 Laser configuration

No comment.

## 7 CALCULATIONS

### 7.1 Required – wheelpath rut depths

- (a) No comment.
- (b) No comment.
- (c) No comment.
- (d) The rut bins listed here can be aggregated to form additional bins. For example:  
(Bin > 10 and ≤ 15) + (Bin > 15 and ≤ 20) = (Bin > 10 and ≤ 20)
- (e) No comment.

### 7.2 Optional – lane rut depth

No comment.

## 8 REPORTING

No comment.

## ANNEX 1 – LASER SAFETY

No comment.

## REFERENCES

Austrroads 2006, *Guide to asset management – Part 5C: rutting*. AGAM05C/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/T009.