



# Test method T240

## Road surface texture depth (sand patch)

DECEMBER 2013



## Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D. Dash	May 1999
		Date on Test Method Revised to Agree with Date on Revision Summary	D. Dash	Feb 2001
Ed 2/Rev 0	All	Revised title, scope, medium grading and straightedge limits, included surface descriptions, revised reporting – David Bligh	G. Donald	Oct 2006
Ed 3/Rev 0	All	New Issue. A single size material and a minimum radius for the patch specified. Reformatted & revised.	J Friedrich	Apr 2012
Ed 3/Rev 1	6, 7	Revised Texture depth reporting requirement to 0.1 mm. Deleted units '(g)' from formula inputs for 'n'.	J Friedrich	Dec 2013

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T240 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

# Test method T240

## Road surface texture depth (sand patch)

### 1. Scope

This test method sets out the procedure to measure the surface texture depth of a road surface.

### 2. General

- (a) This method may be referred to as the “sand patch texture depth”.
- (b) The filling material is screened to have a nominal size  $300\ \mu\text{m}$  (i.e. passes  $600\ \mu\text{m}$  AS Sieve and retained on  $300\ \mu\text{m}$  AS Sieve).
- (c) The following document is referred to in this test method:
  - (i) T119 Field density of road construction materials (sand replacement method).
  - (ii) AS 1152 Test Sieves.

### 3. Apparatus

- (a) A supply of clean, dry, filling material free from organic matter.
- (b) The following sieves that conform to AS 1152:  
 $600\ \mu\text{m}$  and  $300\ \mu\text{m}$ , and if required larger guard sieves.
- (c) Cylindrical metal calibrating container of about 1L or 2L.

NOTE: Apparatus required in T119.

- (d) Balance of suitable capacity with a limit of performance of not greater than  $\pm 5\text{g}$ .
- (e) Sealable plastic bags for storing filling material.
- (f) Suitable shield to form a wind break.
- (g) Suitable brush (e.g. banister, paint).
- (h) A metal straightedge with rounded ends and edges with dimensions according to Figure 1.

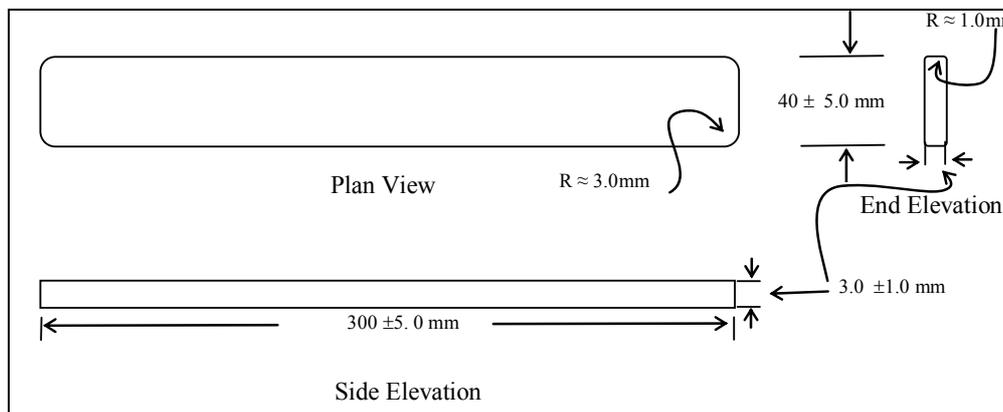


Figure 1—Straightedge

- (i) 300 mm ruler in mm.

### 4. Preparation

- (a) Screen the material through the sieves to achieve the required particle distribution (refer to Step 2(b)).
- (b) Determine the mean poured density of the filling medium ( $C_m$ ) in accordance with Step 4.1 of T119 except that a cylindrical metal calibrating container of about 1L can be used.

- (c) Divide the filling material into portions of  $50.0 \pm 0.5$  g and place and then seal in separate plastic bags and label to include ' $C_m$ '. Store so that the filling material remains dry.

NOTE: *At least 1 bag is required for each sample location.*

## 5. Procedure

### 5.1 General

- (a) Select a sample location that is dry, has a consistent type of surface and is free of deformation (e.g. rutting, shoving, corrugations, etc).
- (b) Clean the surface at the test point of all loose material trapped in the surface texture.
- (c) Apply the filling material as follows:

NOTE: *Shield the test from being blown by the wind or passing vehicles.*

- (i) Pour the filling material from the plastic bag onto the surface to form a small diameter cone.
- (ii) Place the straightedge along its edge on the centre of the cone (refer to Figure 2).
- (iii) Slowly spread the filling material by rotating the straightedge held horizontal while keeping the material as circular as possible.
- (iv) Continue until the filling material is level with the peaks of aggregates in the surface.



Figure 2-Straightedge placed on peak of cone ready to spread filling material

Figure 3-Filling material spread level with peaks of aggregates

- (v) Check that the resulting spread filling material is at least 150 mm in diameter (refer to Figure 3) and fills the voids. If not, use another bag of filling material and continue from Step 5.1(c)(i).
- (vi) Record the number of bags used ( $n$ ).
- (d) Measure the average diameter of the spread filling material to the nearest 1 mm at 5 evenly spaced positions across the circle. Ignore separate particles located outside the general circular shape made by the material.
- (e) Determine the average diameter ( $d$ ) to the nearest 1 mm.

## 6. Calculations

(a) Calculate the Texture Depth ( $TD$ ) for each test point in mm as follows:

NOTE: A bag is 50 g

$$TD = \frac{50 \times n \times 4000}{C_m \pi d^2}$$

Where:

$TD$  = Texture Depth (mm)

$n$  = Number of bags of filling material

$C_m$  = Mean poured density of filling material (g/mL)

$d$  = Average diameter of the spread filling material (mm)

## 7. Report

Include the following data and results in the report:

- (a) Location and offset and description of the road surface.
- (b) Type and nominal particle size of filling material used.
- (c) The Texture Depth ( $TD$ ) for each test point to the nearest 0.1mm.
- (d) Reference to this test method.

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