Transport Roads & Maritime Services

NSW GOVERNMENT

Test method T581

Binder application rates from carpet tiles (field method)

NOVEMBER 2012

Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D.Dash	Jan 2000
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

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

The most recent revision to Test method T581 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T581

Binder application rates from carpet tiles (field method)

1. Scope

This test method sets out the procedure for measuring application rates of binder for sprayed sealing works.

2. Apparatus and Equipment

(a) A carpet tile (with semi-rigid backing) or floor tile with a minimum size of 300 mm x 300 mm.

(b) Tie wire to make loops for tile to enable it to be lifted conveniently off the ground.

(c) Plastic garbage bag or equivalent to place tile inside for ease when carrying.

(d) Vernier Caliper to measure size of tile.

(e) A balance of suitable capacity with a limit of performance of 0.5 g.

3. Preparation

(a) Use vernier caliper to measure the size of the tile. Take four readings of each face, take the average of these readings. Record results to the nearest 1 mm. (F_1, F_2).

(b) Drill a hole in the tile to which a loop of tie wire is attached.

(c) Weigh all items. (Tile with tie, plastic bag with tie and any sample labels or other items to be attached). Record mass. (M_1)

4. Field Procedure

(a) Prior to the application of binder, place the tile on the surface to be sprayed a minimum of 10 m from the start of the run. The loop of wire should be placed above the tile in order not to collect binder from outside the tile area.

(b) After the passage of the sprayer pick up the tile by using the wire loop. Allow the bitumen to cool sufficiently so it does not run off the tile but the tile must be removed before application of aggregate.

(c) Place the tile in the previously weighed plastic garbage bag.

(d) Repair the unsealed area with emulsion or binder as appropriate.

(e) Obtain sample of binder for density testing.

5. Laboratory Procedure

(a) Determine the mass of the sample (including all items). Record result. (M_2)

(b) Determine the density of binder applied at this location in accordance with Test Method T502.

6. Calculations

Calculate application rates as follows:

Binder application rate $B_1 = \dfrac{(M_2 - M_1) \times 1000}{D \times (F_1 \times F_2)}$ (L/m^2)

Bitumen application rate $B = B_1 \dfrac{100 - (A + C)}{100}$ (L/m^2)

Where: M_1, M_2 = Mass (g)
$F1, F_2$ = Length (mm)
D = Density (t/m^3)
A = Adhesion agent (% by Volume)

C = Cutter oil (% by Volume)

7. Reporting

Report application rates to the nearest 0.01 L/m^2.