



Transport
Roads & Maritime
Services

Test method T822

Field testing of road marking paint

JULY 2012



Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
Ed 1/ Rev 1		Reformatted and Revision Summary Added	D.Dash	June 2001
Ed 1/ Rev 2	All	Reformatted and Revision Summary added	D.Dash	July 2012

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

The most recent revision to Test method T822 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T822

Field testing of road marking paint

1. Scope

This test method sets out the procedure for applying road marking paint in transverse lines to the road, for the purpose of assessing its application properties, adhesion and durability.

2. Location of Test Section

The test sections shall be located on the three lane carriageway of a section of Highway carrying in excess of 30,000 v.p.d. and shall consist of one area of cement concrete road and one area of asphaltic concrete road.

3. Apparatus and Equipment

- (a) Compressor capable of providing a consistent supply of compressed air between 400 and 500 kPa.
- (b) A manually or automatically operated spray gun mounted on a trolley in such a way that it may be propelled across, and apply paint to the centre lane of a three lane carriageway without interfering with the traffic in the lane nearest the median strip.

The spray gun to be of a type capable of applying an even film of paint to the road at a thickness of 380 μm in one pass.
- (c) Guide tracks and plywood strip to form a template controlling the direction of the trolley and at the same time outlining an area in which a 125 mm x 3 m line may be sprayed. Cut off plates shall be placed at each end to catch overspray.
- (d) Tinplate strips approximately 300 mm long by 100 mm wide cut from a sheet approximately 300 μm thick.
- (e) Two (2) wet film thickness gauges (See Test Method T814).
- (f) No-Pick-Up (N.P.U.) wheel fitted with a long handle and with a tyre worn or ground to provide a flattened running surface 10 mm wide (essentially conforming to the American Society for Testing and Materials, Standard Designation D 711.67).
- (g) A timing device such as a stopwatch, graduated in divisions of 0.2 second and accurate to within 0.07 percent when tested over a period of 5 minutes.
- (h) Cleaning materials including thinners, soft rags, open containers, etc.
- (i) Road safety devices such as barrier boards, truncated cone lane markers and 'Men at Work' and 'Half Road Closed', 'No Parking' signs.

Note: Care must be taken that control of traffic while tests are in progress conforms to the Authority's safety requirements.

4. Procedure

- (a) Prepare the area for control of traffic by the placement of the necessary signs and barrier boards and of flagmen (if used).
- (b) Place the guide rail on the road surface at right angles to the line of the road covering the width of the middle lane and space the plywood strips 125 mm away and weighed down with steel weights.

Place the cut off plates at either end.
- (c) Place two strips of tinplate across the width of the line 500 mm from either end of the line to be sprayed.
- (d) Carefully mix the paint to be sprayed and pour into the pressure pot of the spray gun. Screw the container cap down immediately.
- (e) Connect the air pressure hose to the nozzle on the container cap.

- (f) Place the wheels of the spray trolley in the guides and run the length of the line with air only to blow away dust and grit, etc., from the road surface.
- (g) Reposition the sprayer trolley at the kerbside end of the run and apply the paint at a steady rate of travel commencing and cutting off the line clearly on each cut off plate.
- (h) Start the stopwatch the moment the line has been applied.
- (i) Assess the wet thickness of the line by passing the wet thickness gauges immediately over the paint on the tin strips. (Test Method T814.) If both gauges read within the range of 355 μm to 405 μm the line is satisfactory for test. If not within these tolerances repeat the application of further lines until a satisfactory line is applied.
- (j) Remove the guide rail, plywood strip and tin strips carefully avoiding damage to the line and allow the line to dry. Retain and mark the tin strip for future identification.
- (k) When it is estimated that the line is nearing the "No-pick-up" stage run the N.P.U. wheel directly across the line close to the position of the tin strip nearest the kerb. Apply the N.P.U. wheel every 30 seconds until the paint does not pick up. Record the time elapsed as the "no-pick-up" time.
- (l) Make a record of the application properties of the paint and record the air temperature, road temperature and relative humidity and assess the wind velocity. (Notes on the general weather conditions, cloudy, etc., may also be made.)
- (m) Place an identifying number at the end of every line, underlining the number in the case of satisfactory lines. Make notes of the finish of each line after drying and before opening to traffic.
- (n) Clean out the spray gun and pressure pot carefully and dry ready for the next line.
- (o) Proceed to the next line spacing the lines by means of the plywood strip so that the lines are all of standard width and a standard distance apart. Maintain the position of the tin strips along the same longitudinal line.
- (p) Allow the paint lines to wear under traffic. Carry out inspection at the following intervals: 1 day, 2 weeks, 4 weeks and at 4 weekly intervals until the final assessment is made.

5. Inspection of Lines and Assessment of Wear

- (a) Inspect the paint lines at intervals, examine and make notes on the following:
 - (i) Discolouration
 - (ii) Bleeding on asphaltic concrete
 - (iii) Flaking and lifting from the road
 - (iv) Wear
 - (v) Cracking or crazing
 - (vi) Visibility
- (b) When the lines show obvious signs of wear, an assessment of durability shall be made on each colour paint and at each site separately bringing into account the above factors. Lines which fail for an obvious reason such as severe discolouration, flaking, etc., shall not be further considered.
- (c) A final assessment shall be made, before the report is prepared, by two officers independently who shall, when the inspection is over, compare notes and come to a final agreement in the order of merit of the better 6 paints of each colour at each testing site.

6. Report

The report shall consist of an assessment of all the paint lines applied, recording the reason for any obvious failure. A numerical or alphabetical figure of merit shall be given to each line considered in the final assessment and a key to the method of assessment provided.

7. Method of Inspection and Assessment

The most satisfactory method of assessment used is as follows:

- (a) Taking each colour paint at each site separately select what appears to be the most outstanding paint and apportion it a letter from the following categories:

A+ Excellent in all respects
A Very good
A- Good
B+ Above Average
B Average
B- Below Average
C+ Poor
C Very Poor
C- Extremely Poor

By comparison with what is considered the best line and cross comparison between the other lines, fit the better quality paints into a classification. It is doubtful whether the C categories have any use but there is a possibility when the paints are applied at two separate sites on two different road surfaces differentiation between any two samples may depend on a low assessment rating.