

RC 423.09

Manual of Testing

MEASUREMENT OF CRACKING AND PATCHING DEFECTS IN A PAVEMENT

1. SCOPE

This test method sets out the procedure to determine the amount of cracking and patching defects in a pavement.

2. DEFINITIONS

2.1 General Defects

All cracks and patches are considered as defects whether they have been successfully or unsuccessfully repaired or not treated.

Successful treatments are considered to be repairs of cracking or patches where there is no reflective cracking, surface cracking, additional patches and/or loss of shape evident.

2.2 Longitudinal defects

Longitudinal defects are those defects which are essentially longitudinal but also include:

- defects other than those recorded as transverse defects; and
- the longitudinal component of diagonal cracks, crocodile cracking and patches.

2.3 Transverse defects

Transverse defects are those defects which are essentially transverse but also includes:

- the transverse component of diagonal cracks and patches. Do not include the transverse component of crocodile cracking.

3. LOTS

Testing is carried out in lots of minimum length of 200 m or, if the total length of the work to be tested is less than 400 m, half the length of the work.

Lots shall comprise pavement lengths that perform essentially the same function, e.g. slow lane, passing lane, shoulder.

4. APPARATUS

Tape measure or measuring wheel capable of measuring to 0.1 m.

5. PROCEDURE

5.1 General

Assessment and measurement of defects is to be made at a slow walking pace.

5.2 Assessment and Measurement of Longitudinal Defects

Measure and record the total length of all longitudinal defects in each **half** lane width (L_{T1})(L_{T2}) in the lot (see Figure 1).

Separately measure the length of any successful repairs (L_{IC1}) (L_{IC2}) in each half lane width in the lot.

5.3 Assessment and Measurement of Transverse Defects

Measure and record the total length of transverse defects (L_T) over each **full** lane width in the lot including the transverse component of any patches where the width is less than the length (see Figure 1).

Separately measure and record the length of successful repairs (L_C) in each **full** lane width in the lot including the transverse component of any patches where the width is less than the length.

6. CALCULATIONS

Calculate the following:

- (a) The length of longitudinal defects in each lot from the following equation:

$$L_T = (L_{T1} + L_{T2}) \times (200/L)$$

where L is the lot length in metres.

- (b) The length of successfully repaired longitudinal defects in lot from the following equation:

$$L_{rc} = (L_{rc1} + L_{rc2}) \times (200/L)$$

- (c) The length of transverse defects in each lot from the following equation:

$$L_{rt} = (L_{rt}) \times (200/L)$$

- (d) The length of successfully repaired transverse defects in lot from the following equation:

$$L_{rc} = (L_{rc}) \times (200/L)$$

- (e) The length of longitudinal defects not treated or unsuccessfully repaired from the following equation:

$$L_{ru} = L_{rt} - L_{rc}$$

- (e) The length of transverse defects not treated or unsuccessfully repaired from the following equation:

$$L_{ru} = L_{rt} - L_{rc}$$

7. REPORT

Report the following:

- (a) The start and end chainage and lateral position of each lot;
- (b) The length of longitudinal defects (L_{rt}) to the nearest 1m/200 m;
- (c) The length of transverse defects (L_{rt}) to the nearest 1m/200 m;
- (d) The length of successfully repaired longitudinal defects (L_{rc}) to the nearest nearest 1m/200 m;
- (e) The length of successfully repaired transverse defects (L_{rc}) to the nearest 1m/200 m.
- (f) The length of longitudinal defects (L_{ru}) not treated or unsuccessfully repaired to the nearest 1m/200 m;
- (g) The length of transverse defects (L_{ru}) not treated or unsuccessfully repaired to the nearest 1m/200 m.

Figure 1 Defects in a Pavement Lane Showing Examples of Measurements to be Made

