

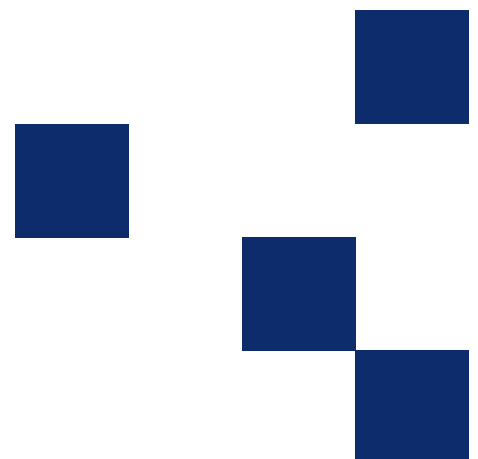


Test method T658

Water permeability of bituminous pavements

(Method 3 – Constant head field
Permeameter (Zube))

NOVEMBER 2012



Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	David Dash	Jan 2000
		Test Method number changed from T617 to T658. Title Revised Only - Craig Brady	G Donald	Oct 2006
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 T658 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T658

Water permeability of bituminous pavements (Method 3 – Constant head field Permeameter (Zube))

1. Scope

This test method sets out the procedure for measuring the water permeability of asphaltic concrete and open graded mix pavements. The method is identical to the Californian Highways Test Method Calif. 341-A.

2. Apparatus

- (a) Plastic graduated cylinders with valves, 250 and 500 mL and 1000 mL capacity.
- (b) 500 mL plastic graduated cylinder.
- (c) Caulking gun with an extension piece.
- (d) 5 litre polythene bottle with a pouring spout.
- (e) Stop watch with a 60 second dial.
- (f) A stainless steel ring with a 150 mm internal diameter, 13 mm thick with an annular recessed groove 6 mm wide and 3 mm deep, as shown in Figure 1.
- (g) A 200 mm spatula.

3. Materials

- (a) Medium weight Chassis grease.
- (b) Suitable liquid wetting agent.
- (c) Supply of water.

4. Preparation of the Test Solution

Mix 100 mL of the wetting agent with 22.5 litres of water.

5. Procedure

- (a) Fill a plastic graduated cylinder, fitted with the valve, with test solution and the 500 mL graduated measuring cylinder with solution as a reserve.
- (b) Fill the annular recess in the stainless steel ring with grease by two applications from the caulking gun making sure that the level of the grease protrudes at least 5 mm above the face of the ring.
- (c) Place the ring face down on the pavement and bring the grease into intimate contact with the surface by pressing down until the grease squeezes round the inside of the ring.
- (d) Release the valve at the base of the plastic graduated cylinder and run solution from the cylinder onto the area within the stainless steel ring. Keep the area covered constantly with the solution for two minutes.

Note: 1. In Areas where the permeability of the pavement is below 250 mL, use the 250 mL graduated cylinder. The 500 mL graduated cylinder is used where the pavement permeability is in excess of 250 mL.

2. If more solution is required during the test, run in solution from the 500 mL measuring cylinder held in reserve.

3. At the end of the test the pavement within the ring should have an unflooded wet appearance.

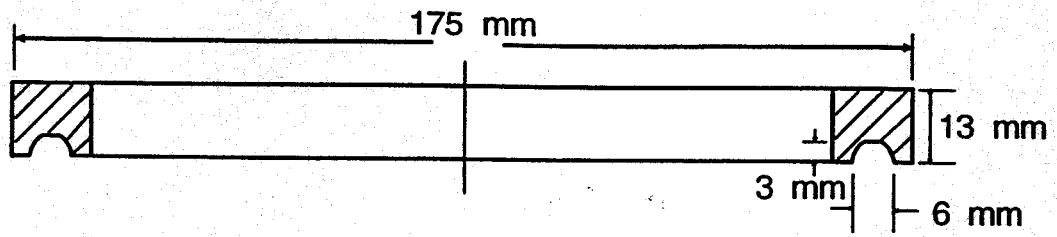
- (e) At the end of two minutes determine the total amount of solution used.

- (f) Lift the ring from the pavement and carefully remove the grease from the pavement by means of the spatula, placing the grease in a waste container.

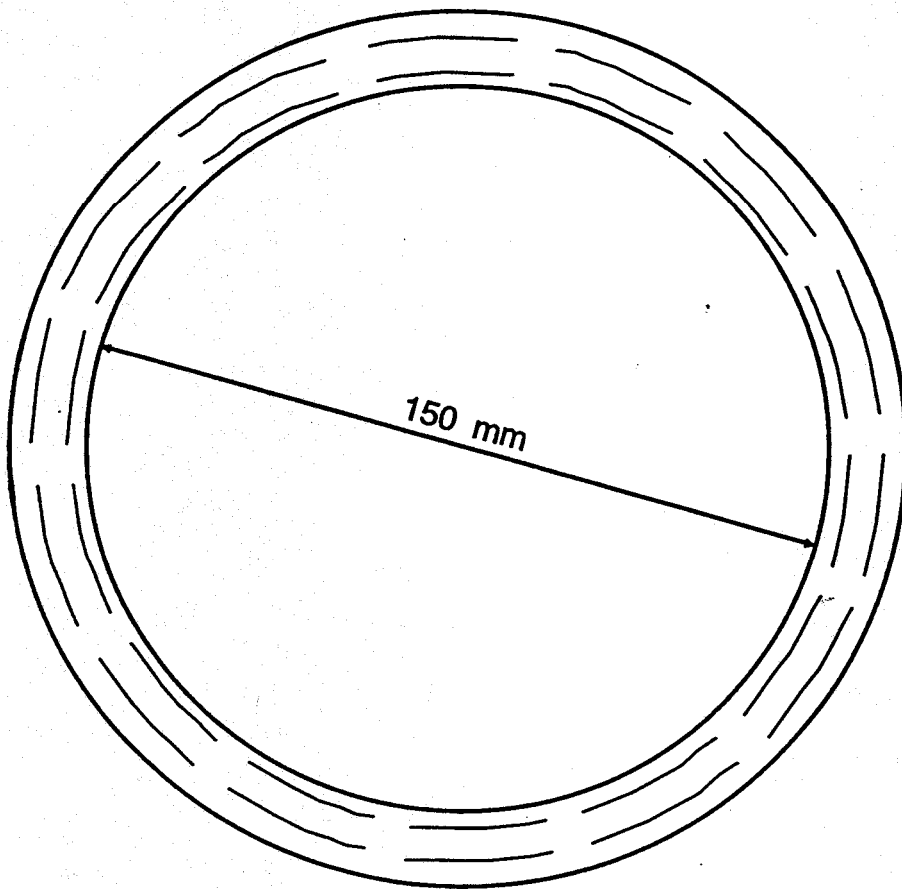
6. Calculations and Reporting

Divide the total quantity of solution used during the test period by two (2) and report the relative permeability in mL, min.

(See Fig. 1)



Section



Plan

ZUBE PERMEABILITY
GREASE RING

Fig.1